COST STUDIES
AND
MISCELLANEOUS
1927

STATEMENT CONCERNING THE

INCLOSED DATA

The inclosed data represent preliminary presentations of the cost of production, results of other cost studies, and miscellaneous studies collected by the Department of Farm Organization and Management of the University of Illinois for 1927.

The data from this research work have been presented in the form given here in order to give early dissemination of the information to the cooperating farmers and to a limited number of others who are especially interested in such studies.

The results shown in the data presented here should be accepted as tentative. Such data collected for only one year do give a good basis for drawing many conclusions. The interpretation of these data, however, seems justified on the basis of other studies which the Department has conducted and which have extended over a considerable period of years.

H. C. M. CASE

December, 1928

PRELIMINARY REPORTS ON COST OF PRODUCTION STUDIES

Prepared by the Department of Farm Organization and Management

The following reports are included, in the order named:

Department of Farm Organization and Management
College of Agriculture, University of Illinois
Urbana, Illinois

and

Bureau of Agricultural Economics, U. S. D. A., Cooperating

1927

COMPLETE COSTS AND FARM BUSINESS ANALYSIS

On 18 Farms In

CLINTON COUNTY, ILLINOIS

Index

Complete Costs and Farm Business Analysis on 18 Farms in Clinton County, Illinois, 1927

By R. H. Wilcox, H. A. Berg and H. C. M. Case

Introduction

This report contains material covering the second year of a farm cost and farm business analysis study in Clinton County, Illinois. The accounting year to which the following figures apply began February 1, 1927. This preliminary report covers the operations on 18 farms. The area of the state in which these farms are located may be termed typical of the winter wheat area of southern Illinois, and as this county lies within 60 miles of St. Louis upon hard roads leading to the city, fluid milk is the principal source of livestock income. The figures in this report are given in detail for each of the 18 farms, for 1927, together with summary figures as averages of cost figures on all farms for both 1926 and 1927. While 1926 was a year of abnormal weather conditions in this area of the state, the conditions for 1927 were quite normal on the whole.

The Year 1927

The fall of 1926 offered good opportunity to get winter wheat in after the fly-free day. The spring of 1927 was cool and wet, preventing early seeding of oats, and causing the oat crop to head out in the hot weather. The growth of straw in the oat crop was good, but the heads did not fill. Wheat developed rapidly all spring, and prospects were for a very heavy yield, but heavy rains at the time of blooming resulted in many of the heads only partially filling. The corn crop was somewhat backward all season, due to the late, wet spring. The fall also was very wet. Corn in the overflow land was damaged by water. The price received for milk in 1927 averaged throughout the year from 5 cents to 10 cents a hundred higher than in 1926; this was about 25 cents a hundred pounds above the average price received by farmers of this area during 1924. The average farm price of winter wheat at harvest time in 1927 was $1.27; this compared with an average price of $1.34 a bushel at harvest time in 1926, and $1.47 a bushel in 1925. The average farm price for the feed grains, especially corn, was somewhat higher than it was in 1926. The price of hay, however, was lower than it was in 1926.

Sources of Farm Income

The principal sources of cash income on these farms were milk and winter wheat. Poultry and hogs not only furnished the household with considerable produce, but were the next two important sources of cash income.

Farm Costs and Farm Earnings

Farm cost studies show that very seldom, if ever, do two farms have the same costs. The cost of producing wheat on the 18 farms in this study varied from $.87 on the farm having the lowest cost to $1.53 for the farm having the high wheat cost. This compares with a variation of from $.72 to $1.49 on these same farms in 1926. The cost of producing milk was $1.36 a hundred pounds on the farm having the low cost in the group to $2.75 a hundred on the farm producing milk at the highest cost. The variation in milk costs on these same farms in 1926 was from $1.64 to $3.09 a hundred pounds.

Farm earnings also show wide differences even when conditions of soil, climate and markets are quite similar. While some of this difference in earnings may come from selling at different times of the year, the principal things that influence the farm earnings include the yields of the important crops, the kinds of crops grown, the returns from feed fed to livestock and the handling of man and horse labor. The factors within the business which affect the total farm earnings will also show considerable variation between farms of the same locality. By a study of the variation of the factors that are listed in Table 1 it is possible to determine which one affects the total farm earnings to the greatest extent.

In the table on the opposite page the farms are listed in order of the rate earned on the total investment which is the best measure of the relative profitableness of the farm business as a whole. The rate earned is determined after all expenses of the farm business have been deducted from the gross receipts and also allowing for the labor of the operator and the members of the family at the rate of 22.2 cents an hour.

The "labor and management wage" shows what the operator would have for his own labor if he had to pay 5 percent interest on the investment after paying all other expenses. The value of the labor performed by members of the family other than the operator is included in the expenses.

The crop acres per man and per horse are relative indicators of the efficiency of man labor and horse labor. The amount of livestock on the farm affects the number of acres that a man can farm because the more livestock there is the less time there is for field work. The only exception to this would be where the livestock were used to pasture off most of the crops which would make a very definite saving of man labor. If quality of work, however, is sacrificed to obtain high crop acres per man and per horse, it will usually result in lower net earnings of the farm.

The crop acres per horse are influenced by a tractor as well as by efficiency of horse labor used. The introduction of a tractor into the farm equipment usually reduces the number of horses for a given crop area. Saving of man and horse labor may be affected by: large machines in good working order and adapted to the job being done; a crop rotation that distributes the work over the growing season and does not pile it up during any one period; having both horses and men that are efficient workers.

Returns for each 100 pounds feed fed will show differences in efficiency in livestock production because feed is the principal item of expense in producing all kinds of livestock.

MEASURES OF EFFICIENCY OF THE FARM AS A UNIT

Table 1 - 18 farms in Clinton County, Illinois, 1927. Arranged in order of rate earned on investment

Farm number	Rate earned on capital in percent	Labor and management wage	Acres in farm	Crop acres	Hours man labor performed	Man equivalent	Crop acres per man	Crop acres per horse	Live-stock income per acre	Returns per $100 feed fed	Crop yields		
											Husked corn	Oats	Wheat
21	11.0	$1944.31	182.5	154	6661	2.75	56.1	24.7	$19	$188	35	28	14
15	8.3	1296.22	180.5	159	10530	4.59	34.6	28.9*	22	155	41	-	16
2	7.6	1375.79	178.8	131	8176	2.91	45.0	19.8*	19	158	23	18	15
19	7.3	1212.88	141.0	131	9896	3.08	42.4	26.1	27	156	11	12	15
10	7.0	1012.78	116.3	112	6347	2.64	42.2	19.6	36	164	44	-	21
12	6.9	1092.48	102.3	78	5045	1.88	41.7	15.7*	21	152	48	39	21
3	5.3	851.23	165.6	144	6692	2.41	59.8	24.	12	152	31	18	15
5	5.3	594.26	79.7	56	3565	1.38	40.9	11.3	27	166	33	13	15
6	4.5	573.92	160.5	142	6146	2.48	57.4	23.8	19	149	30	28	14
7	4.3	542.17	187.7	157	8924	3.57	43.9	20.9	16	154	23	18	21
20	3.9	1267.88	153.8	137	4231	1.84	74.5	27.4*	18	162	25	35	15
18	3.8	425.46	90.5	83	3555	1.49	55.6	20.7	17	181	21	9	14
16	3.8	160.26	258.5	136	8534	3.55	38.4	19.5*	10	144	47	10	15
1	3.2	196.62	168.3	139	4262	1.75	78.5	26.8	11	159	-	16	10
14	2.8	476.60	150.5	113	7122	2.48	45.7	22.7*	19	159	28	11	11
8	2.4	95.00	141.5	114	5888	2.61	43.7	19.0	15	170	32	19	12
4	1.7	- 39.35	190.2	137	4322	1.77	77.6	19.3	11	162	21	9	19
13	1.1	-137.40	171.6	90	7200	2.86	31.6	18.1*	14	131	27	8	26
True Average	5.0	718.92	156.6	123	6505	2.56	48.1	21.5	19	159	29	18	16

*Farms using tractors.

It is natural to expect, where the investment in livestock on a farm is small, that even if this livestock makes good use of the feed it eats and gives a good return for every $100 worth of feed that it gets, it is not going to make much difference in the income on the whole farm. It may happen, however, that a farm not getting quite so much out of its livestock but carrying large amounts of stock that give a fairly good return on their feed will have more total effect on the farm income than just a few animals giving a big return. The thing to work for with livestock is to have enough animals to clean up the roughages and pasture on the farm, and also to keep the type of animal that makes good use of the feed it eats.

In Clinton County large quantities of commercial feeds are fed to dairy cattle, compared to other dairy areas of the state. It is important that good returns from this cash feed be secured by the Clinton County dairyman.

Good crop yields are essential for a good income from farming. However, good yields may be wasted through inefficient livestock management.

Selected Items of Expense

Farm expenses have increased in importance during the last five years because they have taken a greater proportion of the farm income. The net income on any farm depends upon the difference between the total receipts and total expenses and it is therefore necessary for the expense to be kept in proportion to the income if a profit is to be made. Investments in buildings, machinery, and equipment are high. It is becoming necessary for each farm to be equipped with more and better machinery and equipment than every before. Added investment is justified if it reduces total expenses, and takes the place of man labor, or increases production without a corresponding increase in costs.

Increasing the amount of machinery and equipment makes farming more complicated, which requires more ability on the part of the operator. Farm machinery and equipment is rarely used to full capacity. The United States Department of Agriculture has estimated that the average farm machinery is used only 4 percent of the possible working time, which amounts to about 12 days a year.

SELECTED ITEMS OF EXPENSE

Table 2 - 18 farms in Clinton County, Illinois, 1927. Farms ranked in order of rate earned on investment

Farm number	Rate earned on invest.	Acres in farm	Total invest. per acre	Buildings per acre		Fencing per acre		Crop machinery per acre		Rate per hour			General farm expense per hour man labor
				In-vestment	Expense	In-vestment	Expense	In-vestment	Expense	Man labor	Horse labor	Tractor labor	
21	11.0	182.5	$121	$ 8.50	$ .80	$ 1.26	$ .48	$ 4.64	$1.47	$.221	$.114	$ -	$.094
15	8.3	180.5	143	16.24	1.54	3.22	.78	4.61	1.52	.22	.086	.63	.084
2	7.6	178.8	108	7.75	.68	.82	.35	4.91	1.10	.198	.098	.85	.036
19	7.3	141.0	134	13.81	1.51	1.55	.72	7.44	2.23	.222	.094	-	.063
10	7.0	116.3	179	17.56	2.04	7.33	2.28	7.39	1.84	.222	.108	-	.157
12	6.9	102.3	165	25.14	1.97	2.50	.78	8.56	2.82	.222	.112	2.86	.048
3	5.3	165.6	128	6.69	.47	.94	.19	4.64	1.40	.222	.064	-	.079
5	5.3	79.7	136	32.30	2.46	4.03	.90	12.25	2.92	.22	.157	-	.122
6	4.5	160.5	137	18.76	1.46	.71	.01	6.12	1.39	.22	.09	-	.091
7	4.3	187.7	127	11.05	.94	2.12	.38	7.98	1.55	.226	.089	-	.097
20	3.9	153.8	152	18.35	1.42	1.33	.72	8.55	1.39	.233	.178	.62	.173
18	3.8	90.5	140	20.77	1.81	2.87	.40	8.54	1.28	.22	.076	-	.071
16	3.8	258.5	98	9.96	1.08	1.52	.70	8.10	2.17	.206	.156	1.80	.114
1	3.2	168.3	128	18.60	1.32	1.39	.26	3.38	.94	.224	.115	-	.116
14	2.8	150.5	110	8.18	1.05	2.15	.53	6.54	1.86	.202	.131	.56	.147
8	2.4	141.5	167	22.30	1.47	1.49	.17	7.03	1.82	.221	.109	-	.084
4	1.7	190.2	108	10.65	.92	1.22	.41	5.11	1.32	.277	.147	-	.113
13	1.1	171.6	122	15.36	1.34	2.32	.59	11.62	2.27	.22	.111	1.48	.095
True Average	5.0	156.6	130	14.42	1.25	1.96	.56	5.25	1.30	.222	.110	1.26	.099

It is necessary that each farm be properly equipped, but too much or ill adapted equipment increases the expense. Money once invested in most types of farm equipment cannot be recovered.

The costs shown in the accompanying table may be lower than normal for buildings, fencing, and crop machinery because there has been a minimum of outlay of cash for repairs or renewals during the past few years.

The man labor rate is based upon the actual cost of hired labor on the 18 farms cooperating. The average rate was 22.2 cents per hour.

General Farm Expense included all items of expense which are general in character and which cannot definitely be charged to any one account. The principal items are fencing expense, miscellaneous tools and equipment expense, and labor used for work such as mowing weeds. Any one of these items of expense is not very large, but when combined they make up one of the major items of expense on productive enterprises.

Farm Business Analysis

The chart on the opposite page is made up in such a way that each farm can be shown in relation to the average of the 18 farms for each of the factors at the top of the columns.

The figures between the lines running across the page through the center of the chart represent the average of the 18 farms. The figures above and below represent a graduated scale for each factor which is used in locating the points where each farm would come in relation to the average.

By drawing a line across these points you can see how your farm compares with the average.

Find Your Farm Leaks
Clinton County - 1927

The numbers between the lines across the middle of the page are the approximate averages for your county of the factors named at the top of the page. By drawing a line across each column at the number measuring the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

Rate earned on investment	Crops						Livestock		Man labor		Horse labor		Tractor expense per hour	Size of farm
	Corn		Oats		Wheat									
	Yield per acre	Cost per bushel	Yield per acre	Cost per bushel	Yield per acre	Cost per bushel	Returns per 100# feed fed	Income per acre	Crop acres per man	Rate per hour	Crop acres per horse	Rate per hour		
pct.														
11.0	54	$ .45	40	$ .30	28	$ .75	$1.90	$39.00	80	$.10	34	$.05	$ .20	315
10.0	50	.50	36	.40	26	.80	1.85	36.00	75	.12	32	.06	.40	290
9.0	46	.55	34	.50	24	.85	1.80	33.00	70	.14	30	.07	.60	265
8.0	42	.60	30	.60	22	.90	1.75	30.00	65	.16	28	.08	.80	240
7.0	38	.65	26	.70	20	.95	1.70	27.00	60	.18	26	.09	1.00	215
6.0	34	.70	22	.80	18	1.00	1.65	23.00	55	.20	24	.10	1.20	190
5.0	30	.74	18	.88	16	1.07	1.59	19.00	48	.22	22	.11	1.37	165
4.0	26	.80	14	1.00	14	1.15	1.55	16.00	45	.24	20	.12	1.60	140
3.0	22	.85	10	1.10	12	1.20	1.50	13.00	40	.26	18	.13	1.80	115
2.0	18	.90	6	1.20	10	1.25	1.45	10.00	35	.28	16	.14	2.00	90
1.0	14	.95	2	1.30	8	1.30	1.40	7.00	30	.30	14	.15	2.20	65
-1.0	10	1.00	-	1.40	6	1.35	1.35	4.00	25	.32	12	.16	2.40	40
-2.0	6	1.05	-	1.50	4	1.40	1.30	1.00	20	.34	10	.17	2.60	15
-3.0	2	1.10	-	1.60	2	1.45	1.25	-	15	.36	8	.18	2.80	-

Milk Costs

The average net cost of producing milk on the 18 farms in 1927, after deducting the credit for manure and the appreciation in the dairy herd, was $1.94. This compares with an average cost the year previous of $2.14. The lowest cost in 1927 was $1.36 on farm 20, and the highest cost $2.76 on farm 13. Feed was 61 percent of the total cost of milk during both 1926 and 1927. Man labor was the second largest item of expense; in 1927 it was 20 percent of the total. Since general farm expense is distributed to crops and livestock, that is to the productive enterprises on the farm, on the basis of the amount of man labor used by each enterprise, the charge for general farm expense against dairy is relatively high because the dairy used comparatively large amounts of man labor.

The average number of dairy cows carried by these Clinton County farms was between 10 and 11. The largest dairy herd had 14 head for twelve months while the smallest dairy herd carried 5.4 cows on the farm for a whole year.

Farms in this part of the state produce milk in about the same volume every month. While some few farmers plan to increase their volume of production in the summer and lower it in the winter there will be some of their neighbors whose plans call for more milk in the winter than in the summer. This variation in volume of milk production which some few farmers may attempt to get is governed almost entirely by having the cows on the farm calve at a regular time and not through changing the number of cows in the herd from one season to another.

The average size of all the farms included in this study was 156.6 acres, and although these farms carried only about ten cows they fed more pounds of purchased mill feed than farm-grown feed in 1927.

The pounds of feed fed a cow on each of the farms is shown in Table 3. This table shows that 1,001 pounds of purchased mill feeds together with 417 pounds of farm-grown grains and soybeans were fed a cow as an average for the 18 farms. Corn silage was fed in an amount equal to 6,861 pounds per cow, with 791 pounds of corn stover, 1,571 pounds of clover, 1,117 pounds of alfalfa and 477 pounds of other dry roughage per cow. There seemed to be little uniformity in the methods of feeding. While all of the farmers fed some commercial feeds, the amounts used varied a great deal.

There was a marked decline in 1927 in the amount of farm-grown grains fed to the cows on the farms in this study. This decline in the quantity of concentrated feeding from an average of 980 pounds of farm-grown grain in 1926 to only 417 pounds of farm-grown grains in 1927 was not made up by other kinds of feed for the quantities of dry roughage, with the exception that clover hay was less in 1927 than in 1926. There were about 1,000 pounds more silage fed in 1927, however, than in 1926. It would seem, however, from the figures in Table 3 showing the milk produced per cow, that the reduction in farm grains fed had its effect in reducing the total quantity of milk produced per cow.

By examining the feeds used by the low cost farms it is noticeable that some of these farms used a high proportion of farm-grown grains while others with practically the same cost for milk used little farm-grown grain, but fed a high percentage of purchased mill feeds.

The year 1926 being a year of relatively short crops in this county resulted in a relatively short supply of farm grains on hand for feed during the early winter and summer of 1927. The resulting high prices of farm grains for dairy feed caused a marked curtailment in the quantities of these feeds included in the dairy cow ration. Ordinarily these farmers raise enough farm-grown feeds to make up a more substantial portion of their total ration. As wheat is the most profitable crop, it is grown in larger quantities than any other grain; however, during normal seasons feed grains are not crowded out of the rotation by wheat to the extent of making it necessary to buy very large quantities of concentrated feed for the dairy. The kinds and proportions of feeds used by the dairy in the year 1927 are not typical.

As will be seen by examining either Table 3 or Table 4, the production of milk per cow varied in 1927 from 4,127 pounds on one farm to 10,215 pounds on the farm getting the highest milk production. While low milk production per cow will make the cost of milk run high, it is not always the rule, of course, that the highest producing herd is the most profitable. The farm having the lowest cost of milk production received less milk per cow than the average of all 18 farms. While the average production was 6,763 pounds for all of the 18 farms, farms numbers 20, 3 and 6 each got less milk per cow than this average, and still were among the low cost farms.

A study of individual farm costs given in Table 4 together with the quantities of feed and labor shown in Table 3 gives one a picture of the many factors affecting milk costs.

LABOR AND FEED REQUIREMENTS PER MILK COW

Table 3 - Itemized list of kinds and amounts of feed fed per cow on 18 farms, Clinton County, Illinois, 1927

(Farms ranked in order of net cost per 100 pounds of milk produced)

Farm number	20	10	3	14	21	6	5	12	8
Labor per cow									
Man hours	44.7	93.51	60.83	150.08	120.83	80.87	125.6	199.55	103.26
Horse hours	-	.94	.24	8.39	.98	1.24	8.95	1.05	-
Feed per cow (lbs.)									
Concentrates									
Farm grains									
Corn	184	-	333	560	842	-	1127	448	154
Oats	67	146	27	132	346	-	92	-	140
Commercial feeds									
Bran	63	-	-	40	103	413	66	-	12
Dairy feed	121	1471	779	652	158	806	1589	684	463
Miscellaneous	-	-	-	-	-	-	-	4	-
Protein feeds									
Cotton seed meal	21	-	310	109	24	-	-	162	183
Linseed oil meal	32	-	-	-	-	-	-	6	-
Soybeans	13	-	-	-	-	-	-	-	-
Roughages									
Legume hay									
Alfalfa	1347	-	406	2467	551	2946	895	884	-
Clover	932	1609	1714	543	3154	-	-	842	1920
Soybean	-	-	-	-	-	-	1928	105	793
Cowpea	-	-	-	-	-	-	132	-	-
Silage	9400	10486	8369	8109	2805	512	8572	7832	7506
Stover	-	228	917	130	1927	698	3197	-	1024
Other roughages									
Timothy hay									
Oat straw haxel	74	396	286	-	-	465	-	137	488
Miscellaneous	-	-	-	-	354	-	-	-	-
Straw (bedding)	2084	1341	1619	576	1415	1612	1224	1611	1585
Pasture days	166.7	129.2	170.4	175.2	184.9	226.	178.	192.9	179.6
COST OF FEED PER COW	$71.18	85.40	80.68	82.50	77.73	83.79	117.18	75.71	80.83
MILK PRODUCED PER COW	6307	7921	5958	6788	7307	6711	9534	5894	5945
NET COST MILK PER 100 LBS.	$ 1.36	1.51	1.61	1.65	1.69	1.82	1.84	1.90	1.94
NUMBER OF COWS	9.5	13.8	8.4	9.2	12.3	12.9	7.6	9.5	8.2

LABOR AND FEED REQUIREMENTS PER MILK COW (Continued)

Table 3 - Itemized list of kinds and amounts of feed fed per cow on 18 farms, Clinton County, Illinois, 1927

(Farms ranked in order of net cost per 100 pounds of milk produced)

4	19	2	18	1	15	7	16	13	True ave. 18 farms 1927	True ave 19 farms 1926
109.31	253.7	160.1	143.01	94.95	175.85	172.7	190.5	116.11	134.38	151.46
10.28	4.35	3.8	1.64	.31	2.0	2.28	.52	1.78	2.34	2.19
1187	-	359	46	245	9	91	125	100	337	686
-	-	-	92	83	-	200	4	-	79	290
370	-	2253	-	528	25	188	62	-	260	311
37	2841	726	247	302	-	870	6	807	741	439
6	-	-	-	-	-	-	-	-	-	225
93	142	92	82	28	541	61	1	7	101	107
246	-	-	-	16	-	-	1	-	11	13
-	-	-	-	-	-	-	-	-	1	4
1333	1736	-	325	2243	3167	463	60	371	1117	1203
3145	3186	3302	3082	-	1500	1610	84	1343	1571	1250
-	-	-	-	-	-	98	119	-	252	180
-	-	-	-	-	-	-	-	-	5	16
-	7575	5877	6945	233	12133	8260	563	4107	6861	5762
-	2124	1387	1027	146	-	577	31	707	791	1871
222	133	226	80	146	-	345	-	86	177	116
-	159	-	-	-	-	-	-	121	43	237
2333	1185	1151	2301	875	1708	1927	216	1686	1555	1147
159.4	147.1	184.1	187.2	174.9	179.7	169.7	207.2	100.6	179.6	177
102.30	145.90	112.55	72.14	73.15	92.95	89.23	83.48	65.86	88.14	95.88
7760	10215	7216	5731	5117	7322	6365	5317	4127	6763	6897
1.93	1.99	2.01	2.02	2.04	2.07	2.46	2.64	2.76	1.94	2.14
5.4	11.3	10.6	7.3	9.6	12.0	12.3	9.7	14.0	10.2	9.85

MILK PRODUCTION COSTS

Table 4 - Items of Cost and Income per Cow and per 100 Pounds of Milk on 18 farms, Clinton County, 1927

(Farms ranked in order of net cost per 100 pounds of milk produced)

Farm number	20	10	3	14	21	6	5	12	8
COST ITEMS PER COW									
Feed	$ 71.18	85.40	80.68	82.50	77.73	83.80	117.18	75.71	80.83
Man labor	10.40	20.73	13.48	30.32	26.76	17.82	27.63	44.26	22.79
Horse labor	-	.10	.02	.97	.11	.11	1.41	.12	-
Shelter	3.94	2.36	.92	1.67	1.33	4.01	4.20	3.49	5.09
Equipment	5.42	.74	3.57	5.07	4.95	1.10	2.08	1.18	2.58
Vet. and medicine	-	-	-	.70	.49	.56	1.63	-	-
Depreciation	-	-	.60	-	2.11	11.24	2.86	-	.71
Int. on investment in cows	2.97	3.91	2.53	4.27	3.87	4.14	4.28	3.46	4.57
Gen'l. farm expense	7.72	14.71	4.80	22.10	11.42	7.32	15.36	9.59	8.62
Miscellaneous	.54	1.12	.83	1.22	.70	.81	1.32	.44	1.05
TOTAL COST	$102.17	129.07	107.43	148.82	129.47	130.91	177.95	138.25	126.24
INCOME PER COW									
Milk	$115.34	166.63	127.05	144.73	153.83	129.96	199.04	90.47	116.93
Manure	9.22	9.01	11.68	9.34	6.26	18.97	2.89	6.43	11.18
Appreciation	7.07	.35	-	27.77	-	-	-	20.04	-
TOTAL INCOME	$131.63	175.99	138.73	181.84	160.09	148.93	201.93	116.94	128.11
NET PROFIT PER COW	$ 29.46	46.92	31.30	33.02	30.62	18.02	23.98	-21.31	1.87
MILK PRODUCED PER COW (Lbs.)	6307	7921	5958	6788	7307	6711	9534	5894	5945
COST ITEMS PER 100 POUNDS MILK									
Feed	$ 1.13	1.08	1.35	1.22	1.06	1.25	1.23	1.28	1.36
Man labor	.16	.26	.23	.45	.37	.26	.29	.75	.38
Horse labor	-	-	-	.01	-	-	.01	-	-
Shelter	.06	.03	.01	.02	.02	.06	.05	.06	.08
Equipment	.09	.01	.06	.07	.07	.02	.02	.02	.04
Vet. and medicine	-	-	-	.01	-	.01	.02	-	-
Depreciation	-	-	.02	-	.03	.17	.03	-	.01
Int. on investment in cows	.05	.05	.04	.06	.05	.06	.05	.06	.08
Gen'l. farm expense	.12	.19	.08	.33	.16	.11	.16	.16	.15
Miscellaneous	.01	.01	.01	.02	.01	.01	.01	.01	.02
TOTAL COST	$ 1.62	1.63	1.80	2.19	1.77	1.95	1.87	2.34	2.12
INCOME PER 100 POUNDS MILK									
Milk	$ 1.83	2.10	2.13	2.13	2.10	1.94	2.09	1.53	1.97
Manure	.15	.12	.20	.14	.09	.13	.03	.11	.19
Appreciation	.11	-	-	.41	-	-	-	.34	-
TOTAL INCOME	$ 2.09	2.22	2.33	2.68	2.19	2.07	2.12	1.98	2.16
NET PROFIT PER 100 POUNDS	$ .47	.59	.53	.49	.42	.12	.25	.36	.04
NET COST PER 100 POUNDS	$ 1.36	1.51	1.61	1.65	1.69	1.82	1.84	1.90	1.94

MILK PRODUCTION COSTS (Continued)

Table 4 - Items of Cost and Income per Cow and per 100 Pounds of Milk on 18 farms, Clinton County, 1927

(Farms ranked in order of net cost per 100 pounds of milk produced)

4	19	2	18	1	15	7	16	13	True ave. 18 farms 1927	True ave. 19 farms 1926
102.30	145.90	112.55	72.14	73.15	92.95	89.23	83.48	65.86	88.14	95.88
30.29	56.29	31.78	31.39	21.26	38.78	39.12	39.16	25.53	29.47	37.73
1.51	.40	.37	.12	.04	.17	.20	.07	.20	.28	.44
3.32	1.85	1.50	3.72	4.55	1.93	1.92	1.51	2.52	2.67	2.60
.09	2.11	.60	.34	.95	1.77	2.98	.55	.41	2.03	1.38
.51	.10	-	-	.62	.38	1.34	.13	-	.35	.36
6.94	-	-	.96	-	4.22	18.44	-	6.94	3.40	2.19
3.01	4.82	3.56	4.47	3.90	4.63	4.42	3.20	2.52	3.82	3.82
12.35	16.01	5.77	10.18	10.97	14.69	16.82	21.81	11.00	12.38	12.43
.26	3.31	2.14	.37	.38	2.19	.96	.97	.66	1.12	1.27
160.58	230.79	158.27	123.69	115.82	161.71	175.43	150.88	115.64	143.66	158.10
166.83	219.62	153.43	104.77	98.56	157.89	132.86	114.32	85.16	137.61	135.32
6.91	8.78	9.79	7.79	6.31	10.42	6.22	8.87	1.89	7.83	8.69
-	18.40	3.20	-	5.15	-	-	1.85	-	4.51	1.56
173.74	246.80	166.42	112.56	110.02	168.31	139.08	125.06	87.05	149.95	145.57
13.16	16.01	8.15	-11.13	-5.80	6.60	-36.35	-25.82	-28.59	6.28	-12.53
7760	10215	7216	5731	5117	7322	6865	5317	4127	6763	6897
1.32	1.43	1.56	1.26	1.43	1.27	1.30	1.57	1.59	1.30	1.39
.39	.55	.44	.55	.42	.53	.57	.73	.62	.43	.55
.02	-	.01	-	-	-	-	-	-	-	.01
.04	.02	.02	.06	.09	.03	.03	.03	.06	.04	.04
-	.02	.01	.01	.02	.02	.04	.01	.01	.03	.02
.01	-	-	-	.01	.01	.02	.01	-	.01	-
.09	-	-	.01	-	.06	.27	-	.17	.05	.03
.04	.05	.05	.08	.07	.06	.06	.06	.06	.06	.05
.16	.16	.08	.17	.21	.20	.25	.41	.27	.18	.18
-	.03	.03	.01	.01	.03	.01	.02	.02	.02	.02
2.07	2.26	2.20	2.15	2.26	2.21	2.55	2.84	2.80	2.12	2.29
2.15	2.15	2.13	1.83	1.93	2.16	1.93	2.15	2.06	2.03	1.96
.09	.09	.13	.13	.12	.14	.09	.17	.05	.12	.13
-	.18	.05	-	.10	-	-	.03	-	.06	.02
2.24	2.42	2.31	1.96	2.15	2.30	2.02	2.35	2.11	2.21	2.11
.17	.16	.11	-.19	-.11	.09	-.53	-.49	-.69	.09	-.18
1.98	1.99	2.01	2.02	2.04	2.07	2.46	2.64	2.75	1.94	2.14

Crop Costs

Costs of production are shown in this report on seven crops from the records on 18 farms in 1927 and the average cost figures on each of these crops for 1926. The relative importance of each of these seven crops is indicated by the percentage which each occupied of the total crop land in 1927. The average cost per bushel or ton and the variation in cost are given in the following table:

Crop	Percent of crop land	Average net cost per bushel or ton	Variation in Cost	
			High	Low
Corn	25.6	$ .74	$1.61	$ .50
Winter wheat	42.3	1.07	1.53	.87
Oats	14.2	.88	2.27	.43
Soybeans (threshed)	.3	Not averaged	--	--
Clover	7.8	10.57	19.45	5.38
Alfalfa	4.4	8.88	16.14	6.59
Timothy	1.5	7.43	11.56	4.91
Soybean hay	1.4	15.86	19.13	12.51
Sweet clover	2.5	Pasture	--	--

It is apparent that there is a wide variation in the cost of producing crops on farms in the same locality with similar soil and weather conditions.

These variations in costs between farms during the same year are due mostly to factors that are under the control of the individual farmers. These factors are:

1. Those affecting yield which include crop rotation, care of soil, selection of the seed as to variety and grade, control of disease, and cultural practices.

2. Those affecting cost of operation which include the efficient use of man labor, horse labor and machinery and equipment.

A study of these variations in cost is the basis for determining differences in methods and practices of management which contribute to the success or failure of the farm business.

The weather is the most important factor causing variation in crop yields from year to year and it is the most uncontrollable of all factors. However, it is possible by good farm practices to counteract to some extent the effect of adverse weather and to make the best use of good weather. For example, a crop on land that is in a high state of fertility, well drained and well cultivated, will withstand either drought or wet weather better than a crop on poor soil, poorly drained.

Corn

Corn was grown on 25.6 percent of the total crop acreage on these farms in 1927. This was a reduction of 4.6 percent below what it was in 1926. All of the farms, but one, produced corn on bottom land, rented or owned, but at some distance from the home place. In addition to the corn on the bottom land, practically all of the farms had corn on the upland prairie soils.

The average cost per bushel of all of the corn produced on the 18 farms was $.74 in 1927 compared to a cost of $1.09 in 1926. In 1926 the average yield per acre on 17 of the farms that year that husked corn was 17.4 bushels. In 1927 the yield per acre was 30.3 bushels. The dry 1926 growing season was unusually hard on upland corn, while early summer rains thinned out much of bottom land stand of corn. The 1927 season was a "normal" to "good" corn season; most of the bottom corn came through the year with little flood damage, while the upland corn did well. In 1927 the cost of growing an acre of corn husked in the field was $23.18 compared with $19.89 in the year previous. The cost in 1927 varied from a cost per acre of from $12.95 upon one farm to $28.43 on the farm having the highest cost per acre. The cost of producing a bushel of corn in 1927 varied from 50 cents to $1.61. The two factors which influenced this cost were the yield and the operating cost. Farm #12, with the lowest cost per bushel, had <u>both</u> a high yield and a low total operating cost. The combination of the high yield per acre and a relatively low operating cost gave this farm the lowest cost per bushel.

The operating costs on corn in Table 5 have been separated into growing and harvesting, because there was a choice of method of harvesting. Corn is husked from the shock and from the standing stalk in this section of the state. The cost of corn that is husked in the field therefore includes the corn that was husked from the shock as well as that husked from the standing stalk. The other principal method of harvesting corn in Clinton County is that of cutting it for silage. Practically none of the corn is fed off in the field to cattle or hogs.

Winter Wheat

Winter wheat was grown on all of the farms included in the cost study. It covered 42.3 percent of all the cultivated land on the farms. In 1926 on these same farms wheat was harvested from only 27.8 percent of the cultivated area; this marked reduction in acreage in 1926 was due to the wet fall of 1925 which was so wet that crops were not harvested nor winter wheat sown in normal manner. The average cost per acre of growing winter wheat harvested on the 18 farms in 1927 was $18.32. This compares with a cost of $20.05 in 1926. The 1926 wheat out-yielded the 1927 crop; the yields being 19.9 bushels and 15.6 bushels respectively.

The net cost per bushel of wheat varied, in 1927 on the 18 farms, from 87 cents on the low cost farm to $1.53 on the farms having highest costs. The net return per acre in 1927 varied from a profit $9.64 to a loss of $2.65. The average net return per acre in 1927 was $3.05 compared to $7.48 in 1926. Wheat was the only grain crop in 1927 showing profit on the average of all farms in this study.

Oats

Sixteen of the 18 farms under study produced oats that were threshed. The average cost of producing threshed oats in 1927 was $.88 a bushel. The average value of this oats at the time of threshing was $.50 a bushel, resulting in an average loss over the 16 farms of $6.83 an acre. The cost per acre the year previous (1926) was $.69 a bushel and the price $.42, resulting in a loss that year of $4.86. The lowest cost in 1927, on farm #12, was $.43 a bushel and the highest cost, on farm #13, was $2.27. It is needless to say that the crop on farm #13 was a failure, and it was only harvested to insure some horse feed for the coming winter.

Eight farms produced oats to feed as haxel (oats and straw chopped up from the bundle) and as sheaf oats. The cost necessary in producing sheaf oats, which was fed either as haxel or in the sheaf, is shown in Table 8. The average cost of producing an acre of this feed in 1927 was $17.32, compared with a cost of $15.89 in 1926. This $17.32 an acre for the production of sheaf oats in 1927 compared with the cost of $17.36 for oats threshed from the shock. The average cost of growing a bushel of grain in sheaf oats, however, was $.99, compared with an average cost of $.88 for oats threshed from the shock. The principal factor causing this difference in 1927, as in 1926, lies in the difference in yield of grain per acre. It is the general practice to trhesh out the better fields, and leave the poorer fields in the sheaf, to use either for haxel or to feed directly from the sheaf.

The late, cold spring made the oat crop late enough to be materially damaged by hot weather during the season when the crop was filling out. There was an average loss of $6.83 for oats that was threshed, and a loss of $7.25 for each acre that produced sheaf oats. Tables 7 and 8 also carry the cost and income figures on oats for 1926. During both of these years the seasons were not favorable for the production of oats, and as a result these figures probably do not show what oats can do under normal conditions.

Soybeans

Only one farm among the 18 produced soybeans for seed or grain. The year previous (1926) 5 of these farms had produced soybeans with an average of 9.7 acres per farm. Soybeans are not yet one of the principal crops in this section, and the average cost per bushel, as indicated by the 1926 figures, is really high compared with more favorable sections of the state.

Soybeans and corn have similar requirements of labor, power and machinery for ground preparation. The total costs per acre of corn and soybeans produced for seed are approximately equal.

Soybean Hay

Soybean hay was grown on only 6 farms, with an average acreage of 5.1 acres per farm. The average production of soybean hay per acre was 1.2 tons in 1927. This was a material increase in yield over that of 1926, when the average yield on 9 farms was only three-fourths of a ton per acre. The average cost of producing an acre of soybean hay in 1927 was $19.36. The relatively low yield of hay on this land made the cost per ton of soybean hay $15.86. It will be noticed by comparing the cost per ton of soybean hay in Table 11 with the cost per ton of alfalfa hay in Table 12 that all of the alfalfa hay excepting that grown on farm 13 was grown at less cost per ton than any of the soybean hay. It is important to notice, also, that the cost of producing a ton of soybean hay the year previous was almost twice that of the year 1927. In 1926 the average net cost per ton of soybean hay was $30.34. In 1927 the cost was $15.86 per ton.

Alfalfa Hay

Eight farms produced alfalfa hay in 1927. The average acreage of alfalfa hay on each of these farms was 11.37 acres, compared with an average acreage of 7.01 acres per farm in 1926. As the yield of alfalfa hay was somewhat higher in 1927 than in 1926, the cost per ton of producing this alfalfa was somewhat lower. The average cost of producing a ton of alfalfa hay in 1927 was $8.88. This compares with an average of $9.41 a ton for the year 1926. The range in cost of a ton of alfalfa from farm to farm was very much closer in 1927 than it was in 1926. In 1926 the cost per ton ranged from $4.98 on the farm having the low cost to $26.42 on the farm having the high cost. In the next year (1927) the cost per ton ranged from $6.59 on the farm with the low cost to $16.04 on the farm with the high cost.

The acreage of alfalfa is gradually increasing in this section of the state. Undoubtedly, one reason for this is the substantial profit shown by alfalfa, compared with other crops grown. During the two crop years, 1926 and 1927, alfalfa hay was the most profitable field crop grown upon the farms included in this study.

Clover Hay

Eleven farms produced clover hay in 1927, with an average acreage of 14.96 per farm. The yield of clover per acre in 1927 was very considerably larger than in 1926. This increase in yield resulted in a very substantial decrease in the cost of producing a ton of clover hay between the two years. The average cost of producing a ton of clover hay in 1927 was $10.57, with an average yield of 1.19 tons an acre. In 1926 the average yield of clover was only one-half of a ton an acre, resulting in a cost of $20.45 a ton. Although the yield of clover hay in 1927 was more than double that of 1926, the cost of growing an acre of clover hay in 1927 was only $1.39 greater than the year previous. The market value of the hay grown per acre in 1927, however, was practically twice the value of the clover hay produced per acre in 1926. This resulted in clover hay showing a profit of $7.36 an acre in 1927, compared with a loss of 6 cents an acre the year previous.

Timothy Hay

Timothy hay was raised on 9 of the 18 farms in 1927. The average acreage grown by these farms was 3.52, and the average yield of timothy hay an acre was 1.52 tons; this compares with an average acre yield for alfalfa of 1.83 and for clover hay of 1.19. Timothy hay cost $7.43 a ton, which was the lowest cost per ton of any of the hays raised by the farmers included in this study. In the year 1926 the average cost of growing a ton of timothy hay was $10.79, and during that year alfalfa was the only hay produced at less cost a ton than timothy hay. Timothy hay has an advantage over the other hays in the total cost per acre. In 1927 this total cost per acre for timothy hay was $11.25, and in 1926 it was $10.96. During both of these years this was the lowest total cost an acre for any of the hays most commonly grown in the area. As a result of its low cost and relatively high market value, timothy hay showed a profit during both years of the study. In 1927 timothy hay showed a profit of $16.03 an acre, compared with $11.38 an acre in 1926.

CORN (Husked in the field)
Table 5 - Costs of production (acre basis) on 17 farms (88.67 acres)
Clinton County, Illinois, 1927

(Farms ranked in order of net cost per bushel)

Farm number	12	16	15	21	10	13	14	6	3	8
Acres in corn	10.41	31.00	14.89	9.02	15.45	16.62	15.26	20.37	13.53	18.66
Yield per acre (bu.)	47.55	46.71	40.63	34.92	43.62	27.02	27.52	29.70	30.59	31.62
Labor per acre										
Man hours	20.87	24.71	31.87	25.00	27.00	21.24	16.46	31.52	37.60	27.62
Horse hours	40.25	32.96	29.95	44.54	45.10	37.54	39.53	62.84	76.27	56.86
Tractor hours	-	1.02	2.52	-	-	.96	.33	-	.59	-
COST ITEMS										
Growing costs										
Man labor	$ 3.00	1.83	3.86	2.69	4.13	2.79	2.33	4.54	5.58	3.79
Horse labor	3.19	3.29	1.59	3.76	3.78	2.81	4.18	4.02	3.66	4.41
Tractor labor	-	1.85	1.60	-	-	1.43	.18	-	.51	-
Machinery	1.54	1.77	1.69	1.21	1.28	.94	1.09	.85	2.06	1.56
Seed	.18	.15	.28	.22	.41	.17	.12	.13	.17	.11
Manure	4.70	3.98	2.99	2.99	5.41	.94	1.53	1.73	1.57	4.62
Limestone	1.55	1.25	1.41	.10	.85	.64	.38	.69	.35	.84
Phosphate	-	-	-	1.17	-	-	-	-	-	-
Gen'l. farm expense	1.00	2.83	2.66	2.01	3.94	2.01	2.43	2.86	2.97	2.34
Miscellaneous	-	-	.17	-	-	.07	.13	.07	.05	-
Total growing costs	$15.15	16.95	16.25	14.15	19.80	11.80	12.37	14.89	16.92	17.67
Harvesting costs										
Man labor	$ 1.63	3.25	3.16	2.87	1.87	1.88	1.00	2.40	2.74	2.30
Horse labor	1.30	1.84	.98	1.31	1.08	1.36	.98	1.64	1.17	1.80
Total harvesting cost	$ 2.93	5.09	4.14	4.18	2.95	3.24	1.98	4.04	3.91	4.10
Total growing and harvesting cost	$18.08	22.04	20.39	18.33	22.75	15.04	14.35	18.93	20.83	21.77
Taxes	.64	.59	.65	.52	.69	.50	.81	.34	.52	.63
Interest on land	5.00	3.50	5.00	4.30	4.99	3.68	3.50	2.77	3.39	3.90
TOTAL COST	$23.72	26.13	26.04	23.15	28.43	19.22	18.66	22.04	24.74	26.30
INCOME										
Grain	$33.28	35.03	28.44	20.96	28.13	15.65	13.53	19.31	17.94	20.40
Roughage	-	.19	.53	-	-	.36	-	-	-	-
Pasture	-	-	2.09	1.46	1.21	1.21	.10	1.77	-	.06
TOTAL INCOME	$33.28	35.22	31.06	22.42	29.34	17.22	13.63	21.08	17.94	20.46
NET PROFIT PER ACRE	$ 9.56	9.09	5.02	-.73	.91	-2.00	-5.03	-.96	-6.80	-5.84
NET COST PER BUSHEL	$ .50	.56	.58	.62	.62	.65	.67	.68	.81	.83

CORN (Husked in the field) (Continued)
Table 5 - Costs of production (acre basis) on 17 farms (88.67 acres)
Clinton County, Illinois, 1927

(Farms ranked in order of net cost per bushel)

Farm number	5	20	2	18	4	7	19	Ave. of 17 farms 1927	Ave. of 17 farms 1926
Acres in corn	6.06	23.50	21.56	4.97	31.52	10.69	8.44	15.41	20.66
Yield per acre (bu.)	33.00	25.45	22.96	21.12	20.65	23.39	11.26	30.31	17.45
Labor per acre									
Man hours	26.32	15.47	27.72	21.32	16.43	28.97	15.23	24.08	19.53
Horse hours	56.97	19.22	62.57	47.38	33.88	55.71	49.29	44.73	39.51
Tractor hours	-	3.38	-	-	-	-	-	.64	.47
COST ITEMS									
Growing costs									
Man labor	$ 3.25	1.81	3.72	3.33	3.27	3.83	2.29	3.28	3.28
Horse labor	6.96	1.81	4.55	2.84	4.12	3.90	3.78	3.60	3.98
Tractor labor	-	2.33	-	-	-	-	-	.58	.50
Machinery	1.43	1.26	.72	1.31	.70	1.53	1.66	1.25	1.03
Seed	.16	.27	.64	.14	1.42	.16	1.01	.40	.15
Manure	3.56	3.26	2.47	3.54	1.97	2.82	3.31	2.89	2.09
Limestone	-	.03	.51	-	.70	1.19	1.40	.71	) .24
Phosphate	-	-	-	-	.48	-	-	.10	)
Gen'l.farm expense	3.21	2.54	1.02	1.52	1.85	2.82	.96	2.31	1.64
Miscellaneous	.21	.22	-	.13	-	-	2.11	.13	.45
Total growing costs	$18.78	13.53	13.63	12.86	14.50	16.25	16.52	15.25	13.36
Harvesting costs									
Man labor	$ 2.54	2.00	1.79	1.35	1.29	2.72	1.09	2.10	1.56
Horse labor	1.97	1.60	1.59	.76	.85	1.06	.86	1.33	.95
Total harvesting cost	4.51	3.60	3.38	2.11	2.14	3.78	1.95	3.43	2.51
Total growing and harvesting cost	$23.29	17.13	17.01	14.97	16.64	20.03	18.47	18.68	15.87
Taxes	1.22	.68	.51	.82	.80	.73	.77	.65	.75
Interest on land	3.65	4.00	3.45	4.00	3.70	4.00	4.00	3.85	3.27
TOTAL COST	$28.16	21.81	20.97	19.79	21.14	24.76	23.24	23.18	19.89
INCOME									
Grain	$20.79	16.19	13.08	12.68	11.54	15.20	6.75	19.27	8.49
Roughage	-	-	-	-	-	-	-	.07	.56
Pasture	-	-	.51	-	-	-	5.08	.67	.35
TOTAL INCOME	$20.79	16.19	13.59	12.68	11.54	15.20	11.83	20.01	9.40
NET PROFIT PER ACRE	$-7.37	-5.62	-7.38	-7.11	-9.60	-9.56	-11.41	-3.17	-10.49
NET COST PER BUSHEL	$ .85	.86	.89	.94	1.02	1.06	1.61	.74	1.09

WHEAT (Threshed from shock)
Table 6 - Cost of Production (acre basis) on 18 farms (899.69 acres)
Clinton County, Illinois, 1927

(Farms ranked in order of net cost per bushel)

Farm numbers	7	10	12	13	4	19	15	2	20	21
Acres in wheat	52.2	35.02	34.51	15.74	66.36	50.23	92.39	61.87	47.10	48.98
Yield per acre (bu.)	20.65	20.93	20.92	26.43	19.02	15.31	15.96	15.11	15.29	14.37
Labor per acre										
Man hours	15.56	12.42	10.37	20.01	9.49	9.03	10.30	13.56	9.99	10.24
Horse hours	32.64	25.61	24.18	32.85	21.56	19.49	16.08	32.79	9.48	21.97
Tractor hours	-	-	-	1.24	-	-	1.70	-	2.53	-
COST ITEMS										
Growing costs										
Man labor	$ 1.79	1.53	1.41	2.09	1.31	1.17	1.30	1.60	.79	1.17
Horse labor	2.59	2.40	2.04	2.53	2.15	1.30	.83	2.26	.38	2.00
Tractor labor	-	-	-	1.91	-	-	.85	-	2.27	-
Machinery	.49	.55	.58	.75	.41	.44	.38	.29	.35	.24
Seed	2.09	1.53	1.40	1.16	1.71	2.03	1.67	1.77	2.35	1.99
Manure	2.02	3.10	2.69	1.32	1.40	1.89	2.74	2.24	1.86	1.70
Limestone	1.18	1.20	.99	1.14	1.44	1.21	.83	.62	.60	.79
Phosphate	-	-	1.17	.89	.74	-	-	.24	-	-
Gen'l farm expense	1.43	1.71	.53	1.87	1.00	.69	.77	.50	1.39	.90
Total growing costs	$11.59	12.02	10.81	13.66	10.16	8.73	9.37	9.52	9.99	8.79
Harvesting costs										
Man labor	$ 2.04	1.40	1.05	2.51	1.41	.97	1.13	1.19	1.49	1.24
Horse labor	.87	.89	.67	1.39	.97	.53	.42	.62	1.25	.64
Tractor labor	-	-	-	-	-	-	.19	-	-	-
Twine	.40	.39	.29	.55	.30	.26	.29	.39	.30	.24
Threshing costs	1.24	1.57	1.42	1.85	1.30	1.07	1.32	1.06	.90	1.00
Fuel	.14	.10	.09	.28	.16	.09	.07	.06	.11	.08
Machinery	.19	.33	.53	.73	.22	.35	.29	.16	.18	.21
Total harvesting cost	4.88	4.68	4.05	7.31	4.36	3.27	3.71	3.48	4.23	3.41
Cost of growing and harvesting	$16.47	16.70	14.86	20.97	14.52	12.00	13.08	13.00	14.22	12.20
Taxes on land	.70	.70	.64	.61	.90	.77	.62	.62	.68	.52
Interest on land	3.66	5.00	5.00	5.00	4.00	4.00	3.98	3.59	4.00	4.30
TOTAL COST	$20.83	22.40	20.50	26.58	19.42	16.77	17.68	17.21	18.90	17.02
INCOME										
Grain	$26.64	27.00	26.99	34.09	24.53	19.75	20.59	19.49	19.71	18.54
Straw	.92	.77	.87	1.59	.60	.59	.54	.61	.53	.55
Pasture	1.84	2.95	.70	.54	-	1.02	.85	.90	2.35	.98
TOTAL INCOME	$29.40	30.72	28.56	36.22	25.13	21.36	21.98	21.00	22.59	20.07
NET PROFIT PER ACRE	$ 8.57	8.32	8.06	9.64	5.71	4.59	4.30	3.79	3.69	3.05
NET COST PER BUSHEL	$ .87	.89	.91	.93	.99	.99	1.02	1.04	1.05	1.08

WHEAT (Threshed from shock) (Continued)
Table 6 - Cost of Production (acre basis) on 18 farms (899.69 acres)
Clinton County, Illinois, 1927

(Farms ranked in order of net cost per bushel)

Farm number	3	18	16	5	6	14	1	8	True ave. 18 farms 1927	True ave. 17 farms 1926
Acres in wheat	64.26	34.99	58.21	17.43	56.17	41.06	60.87	44.96	49.98	37.00
Yield per acre (bu.)	15.42	14.06	15.44	15.09	14.24	10.86	9.53	11.77	15.63	19.93
Labor per acre										
Man hours	11.52	13.68	9.25	12.99	13.32	9.92	8.21	10.82	13.29	12.00
Horse hours	23.78	29.11	16.24	34.07	31.40	26.30	20.04	26.26	23.06	25.93
Tractor hours	-	-	1.15	-	-	-	-	-	.40	.33
COST ITEMS										
Growing costs										
Man labor	$ 1.21	1.65	.89	1.93	1.76	1.19	1.18	1.52	1.33	1.28
Horse labor	1.39	2.09	2.00	3.53	2.32	2.23	2.21	2.79	1.88	2.48
Tractor labor	-	-	1.31	-	-	-	-	-	.33	.44
Machinery	.24	.41	.46	.71	.49	.52	.24	.62	.41	.63
Seed	2.09	1.50	1.80	2.07	1.87	2.08	2.01	2.37	1.85	2.20
Manure	1.66	2.02	2.28	2.04	1.97	2.57	1.54	2.64	2.06	1.90
Limestone	.85	1.23	1.26	-	.65	.34	.15	.91	.85	)
Phosphate	-	-	-	.05	2.58	-	-	-	.29	) .78
Gen'l. farm exp.	1.14	1.06	.91	1.59	1.51	.81	.76	.98	.99	.93
Total growing cost	$8.58	9.96	10.91	11.92	13.15	9.74	8.09	11.83	9.99	10.64
Harvesting costs										
Man labor	$1.52	1.56	1.08	1.19	1.40	1.00	.82	1.00	1.26	1.59
Horse labor	.49	.54	1.00	1.01	.59	.90	.63	.54	.71	.94
Tractor labor	-	-	-	-	-	-	-	-	.02	.03
Twine	.31	.27	.34	.27	.28	.21	.21	.24	.29	.30
Threshing costs	.93	.93	.93	1.05	1.13	.65	.58	.71	1.05	1.36
Fuel	.09	.09	.06	.13	.09	.15	.05	.06	.09	.09
Machinery	.21	.19	.19	.22	.20	.27	.26	.23	.25	.25
T.harvesting cost	$3.55	3.63	3.60	3.87	3.74	3.18	2.55	2.78	3.67	4.56
Cost of growing and harvesting	$12.13	13.59	14.51	15.79	16.89	12.92	10.64	14.61	13.66	15.20
Taxes on land	.74	.82	.59	1.22	.52	.81	1.00	.64	.70	.72
Interest on land	4.77	4.00	3.50	3.65	3.75	3.50	4.00	4.00	3.96	4.13
TOTAL COST	$17.64	18.41	18.60	20.66	21.16	17.23	15.64	19.25	18.32	20.05
INCOME										
Grain	$19.89	18.14	19.92	19.46	18.37	14.00	12.29	15.18	19.80	26.72
Straw	.51	1.00	.69	.69	.64	.36	.41	.44	.62	.47
Pasture	-	1.59	-	-	1.02	1.74	.84	.98	.95	.34
TOTAL INCOME	$20.40	20.73	20.61	20.15	20.03	16.10	13.54	16.60	21.37	27.53
NET PROFIT PER ACRE	$ 2.76	2.32	2.01	-.51	-1.13	-1.13	-2.10	-2.65	3.05	7.48
NET COST PER BUSHEL	$ 1.11	1.12	1.16	1.32	1.37	1.39	1.53	1.53	1.07	.97

OATS (Threshed from shock)
Table 7 - Cost of production (acre basis) on 16 farms (220.21 acres)
Clinton County, Illinois, 1927

(Farms ranked in order of net cost per bushel)

Farm number	12	20	21	6	7	2	1	3	8
Acres oats threshed	10.18	5.19	25.94	12.28	20.7	15.14	15.19	19.84	14.55
Yield per acre (bu.)	38.60	34.7	28.30	28.02	17.87	17.50	16.13	17.74	18.63
Labor per acre									
Man hours	11.20	10.59	9.54	17.51	12.66	15.27	8.62	13.26	15.36
Horse hours	18.86	17.15	22.51	27.69	27.83	30.85	24.23	30.34	29.26
Tractor hours	-	1.16	-	-	-	-	-	-	-
COST ITEMS									
Growing costs									
Man labor	$ .69	1.03	1.24	1.25	1.63	1.46	1.34	1.69	1.83
Horse labor	1.02	1.83	2.04	1.54	1.88	2.28	2.31	1.54	2.29
Tractor labor	-	.70	-	-	-	-	-	-	-
Machinery	.53	.50	.31	.29	.50	.26	.26	.36	.55
Seed	1.18	1.30	1.55	2.28	1.38	1.63	1.97	1.09	1.92
Manure	2.68	1.86	1.70	1.97	1.71	2.24	1.54	1.66	2.64
Limestone	.61	.88	-	1.02	.76	.44	-	.95	.18
Gen'l. farm expense	.54	1.49	.91	1.55	1.08	.54	1.00	1.10	1.28
Total growing cost	$ 7.25	9.59	7.75	9.90	8.94	8.85	8.42	8.39	10.69
Harvesting costs									
Man labor	$ 1.80	1.44	.89	2.59	1.24	1.59	.59	1.29	1.57
Horse labor	1.08	1.21	.53	.96	.60	.78	.49	.49	.90
Tractor labor	-	-	-	-	-	-	-	-	-
Twine	.28	.32	.27	.34	.26	.28	.22	.32	.23
Threshing	1.49	1.04	1.13	1.51	.82	.70	.64	.71	.56
Fuel	.10	.09	.09	.20	.10	.06	.07	.09	.12
Machinery	1.36	.15	.20	.21	.20	.21	.29	.25	.32
Total harvesting cost	$ 6.11	4.25	3.11	5.81	3.22	3.62	2.30	3.16	3.70
Total growing and harvesting cost	$13.36	13.84	10.86	15.71	12.16	12.47	10.72	11.55	14.39
Taxes	.64	.68	.52	.62	.69	.62	1.16	.82	.64
Interest on land	5.00	4.00	4.30	4.10	2.85	3.65	4.00	5.00	3.58
TOTAL COST	$19.00	18.52	15.68	20.43	15.70	16.74	15.88	17.37	18.61
INCOME									
Grain	$20.07	17.34	14.15	14.01	8.94	8.75	8.06	8.87	9.31
Straw	2.36	2.02	1.39	2.20	.87	1.98	1.38	1.21	1.44
Pasture	.22	-	-	1.24	-	-	.17	-	-
TOTAL INCOME	$22.65	19.36	15.54	17.45	9.81	10.73	9.61	10.08	10.75
NET PROFIT PER ACRE	$ 3.65	.84	-.14	-2.98	-5.89	-6.01	-6.27	-7.29	-7.86
NET COST PER BUSHEL	$ .43	.48	.51	.61	.83	.84	.89	.91	.92

OATS (Threshed from shock) (Continued)
Table 7 - Cost of Production (acre basis) on 16 farms (220.21 acres)
Clinton County, Illinois, 1927

(Farms ranked in order of net cost per bushel)

Farm number	19	14	5	16	18	4	13	True ave. 16 farms 1927	True ave 14 farms 1926
Acres oats threshed	14.01	7.37	7.2	27.57	2.79	14.41	7.85	13.76	21.79
Yield per acre (bu.)	12.21	11.26	13.47	10.10	8.60	8.88	8.41	18.17	21.75
Labor per acre									
Man hours	10.06	11.33	15.83	8.69	10.12	9.40	12.29	11.95	9.41
Horse hours	28.05	29.31	32.64	21.96	25.98	30.74	28.15	26.06	22.47
Tractor hours	-	-	-	-	-	-	1.72	.09	.21
COST ITEMS									
Growing costs									
Man labor	$ 1.35	1.60	1.56	1.03	1.42	1.87	1.59	1.41	1.31
Horse labor	2.09	3.29	3.01	2.70	1.57	3.84	2.54	2.24	2.18
Tractor labor	-	-	-	-	-	-	2.56	.11	.25
Machinery	.52	.58	.44	.44	.37	.59	.78	.43	.44
Seed	1.93	1.06	2.29	1.11	1.29	1.67	.77	1.52	1.31
Manure	1.89	2.40	2.04	2.28	3.05	1.40	1.33	1.95	1.82
Limestone	-	.47	-	1.04	-	1.21	.77	.56	.74
Gen'l. farm exp.	.63	1.68	1.94	.99	.70	1.44	1.19	1.07	.85
Total growing cost	$ 8.41	11.08	11.28	9.59	8.40	12.02	11.53	9.29	8.90
Harvesting costs									
Man labor	$ .89	.70	1.93	.76	.80	1.65	1.19	1.25	1.05
Horse labor	.55	.55	2.13	.72	.40	.67	.59	.73	.76
Tractor labor	-	-	-	-	-	-	-	-	-
Twine	.24	.30	.32	.21	.16	.37	.26	.27	.19
Threshing	.49	.45	.54	.40	.43	.32	.33	.73	.89
Fuel	.05	.15	.07	.05	.05	.21	.13	.10	.08
Machinery	.48	.25	.30	.14	.21	.33	.38	.30	.27
T. harvesting cost	$ 2.70	2.39	5.29	2.27	2.06	3.55	2.88	3.38	3.24
Total growing and harvesting cost	$11.11	13.47	16.57	11.86	10.46	15.57	14.41	12.67	12.14
Taxes	.77	.81	1.22	.59	.82	.90	.61	.73	.83
Interest on land	4.00	3.50	3.65	3.50	4.00	4.00	5.00	3.96	4.02
TOTAL COST	$15.88	17.78	21.44	15.95	15.28	20.47	20.02	17.36	16.99
INCOME									
Grain	$ 6.10	5.63	6.74	5.05	4.30	4.44	4.20	9.12	10.22
Straw	1.29	1.22	1.25	.65	1.08	1.04	.96	1.32	1.81
Pasture	-	-	-	-	-	-	-	.09	.10
TOTAL INCOME	$ 7.39	6.85	7.99	5.70	5.38	5.48	5.16	10.53	12.13
NET PROFIT PER ACRE	$-8.49	-10.93	-13.45	-10.25	-9.90	-14.99	-14.86	-6.83	-4.86
NET COST PER BUSHEL	$ 1.20	1.47	1.50	1.51	1.65	2.19	2.27	.88	.69

SHEAF OATS

Table 8 - Costs of Production (acre basis) on 8 farms (68.68 acres)
Clinton County, Illinois, 1927

(Farms ranked in order of net cost per bushel)

Farm number	2	20	15	8	10	1	6	18	True ave. 8 farms 1927	True ave. 11 farms 1926
Acres of sheaf oats	5.32	14.31	10.66	2.56	9.88	8.62	11.94	5.39	8.58	12.08
Yield per acre (bu.)	24.44	17.12	23.45	15.62	17.71	10.44	10.13	6.86	15.84	18.53
Labor per acre										
Man hours	16.49	5.14	13.13	14.26	15.69	11.37	12.18	9.92	11.53	9.65
Horse hours	35.95	8.94	24.39	31.93	34.62	23.96	26.21	24.30	23.20	24.49
Tractor hours	-	1.19	2.67	-	-	-	-	-	.66	.27
COST ITEMS										
Growing costs										
Man labor	$ 1.58	.73	2.03	1.89	1.84	1.12	1.49	1.54	1.45	1.51
Horse labor	2.51	1.04	1.61	2.70	2.77	1.86	1.76	1.53	1.82	2.38
Tractor labor	-	.74	1.52	-	-	-	-	-	.39	.34
Machinery	.29	.40	1.08	.67	.86	.34	.28	.38	.54	.59
Seed	1.78	2.04	2.81	1.73	2.43	1.74	1.85	1.34	2.06	1.37
Manure	2.24	1.86	1.71	2.64	3.10	1.54	1.97	2.82	2.13	2.11
Limestone	.67	.39	-	1.13	1.15	-	-	.07	.34	.59
Gen'l. farm exp.	.65	1.01	1.09	1.32	2.47	1.31	1.11	.72	1.25	.73
Total growing costs	9.72	8.21	11.85	12.08	14.62	7.91	8.46	8.40	9.98	9.62
Harvesting costs										
Man labor	$ 1.69	.46	.87	1.42	1.64	1.43	1.15	.64	1.08	.80
Horse labor	1.02	.48	.48	.79	.96	.90	.60	.32	.66	.63
Tractor labor	-	-	.18	-	-	-	-	-	.03	.03
Twine	.43	.25	.32	.20	.49	.14	.26	.14	.29	.20
Machinery	.27	.15	.13	.44	.43	.10	.30	.19	.23	.23
T. harvesting cost	$ 3.41	1.34	1.98	2.85	3.52	2.57	2.31	1.29	2.29	1.89
Total growing and harvesting cost	$13.13	9.55	13.83	14.93	18.14	10.48	10.77	9.69	12.27	11.51
Taxes	.64	.68	.65	.64	.70	1.17	.35	.82	.69	.69
Interest on land	4.01	4.00	5.00	3.99	5.00	4.00	4.39	4.00	4.36	3.69
TOTAL COST	$17.78	14.23	19.48	19.56	23.84	15.65	15.51	14.51	17.32	15.89
INCOME										
Grain	$12.22	11.75	11.26	7.81	8.86	5.22	5.07	3.43	8.51	8.71
Straw	2.25	1.78	1.69	1.17	2.12	.87	.75	.91	1.47	1.38
Pasture	-	-	-	-	-	.57	.13	-	.09	.30
TOTAL INCOME	$14.47	13.53	12.94	8.98	10.98	6.66	5.95	4.34	10.07	10.39
NET PROFIT PER ACRE	$-3.31	-.70	-6.54	-10.58	-12.86	-8.99	-9.56	-10.17	-7.25	-5.50
NET COST PER BUSHEL	$ .64	.73	.76	1.18	1.23	1.36	1.44	1.98	.99	.77

SOYBEAN HAY

Table 9 - Cost of production (acre basis) of soybean hay on 6 farms (30.78 acres) Clinton County, Illinois, 1927

(Farms ranked in order of net cost per ton)

Farm number	8	16	5	1	7	13	True ave. 6 farms 1927	True ave. 9 farms 1926
Acres of soybean hay	2.5	5.33	6.88	6.9	5.25	3.92	5.13	4.09
Yield per acre (tons)	1.6	1.50	1.45	.87	1.14	.76	1.20	.75
Labor per acre								
Man hours	22.4	19.37	11.68	11.88	22.48	13.39	17.18	20.26
Horse hours	31.0	34.99	21.31	24.78	48.19	21.43	31.84	30.95
Tractor hours	-	-	-	-	-	2.87	.36	.76
COST ITEMS								
Growing costs								
Man labor	$ 1.42	1.23	1.37	1.14	2.76	1.65	1.57	2.42
Horse labor	2.16	3.35	3.34	2.12	3.26	1.30	2.70	2.85
Tractor labor	-	-	-	-	-	4.26	.54	.65
Machinery	.15	.87	.49	.16	.76	.88	.55	.73
Seed	2.04	1.94	4.27	1.74	2.44	1.40	2.44	3.66
Manure	1.32	1.14	1.02	.77	.81	.66	.93	.96
Limestone and phosphate	.94	-	-	.61	1.37	-	.45	.74
Gen'l. farm expense	1.87	2.22	2.08	1.37	2.19	1.27	1.84	1.52
Miscellaneous	-	-	-	-	-	-	-	.07
Total growing cost	$ 9.90	10.75	12.57	7.91	13.59	11.42	11.02	13.60
Harvesting costs								
Man labor	$ 3.53	2.76	2.37	1.53	2.46	1.29	2.22	2.62
Horse labor	1.22	2.10	1.42	.74	1.09	1.08	1.27	1.18
Machinery	.73	1.13	1.36	.18	.28	.73	.74	.95
Total harvesting cost	$ 5.48	5.99	5.15	2.45	3.83	3.10	4.23	4.75
Cost of growing and harvesting	$15.38	16.74	17.72	10.36	17.42	14.52	15.25	18.35
Taxes	.64	.59	1.22	.48	.65	.41	.70	.64
Interest on land	4.00	3.50	3.65	4.00	3.00	2.00	3.41	3.74
TOTAL COST	$20.02	20.83	22.59	14.84	21.07	16.93	19.36	22.73
INCOME								
Hay	$25.60	25.52	23.26	14.78	18.28	11.48	19.59	8.26
Pasture	-	-	-	-	-	2.29	.29	-
TOTAL INCOME	$25.60	25.52	23.26	14.78	18.28	13.77	19.88	8.26
NET PROFIT PER ACRE	$ 5.58	4.69	.67	-.06	-2.79	-3.16	.52	-14.47
NET COST PER TON	$12.51	13.88	15.55	17.06	18.45	19.13	15.86	30.34

CORN FODDER

Table 10 - Cost of Production (acre basis) on 11 farms (84 acres)
Clinton County, Illinois, 1927

(Farms ranked in order of cost per ton of fodder)

Farm number	21	5	8	6	7	2	3
Acres in fodder corn	9.03	9.82	4.0	3.0	7.35	5.90	16.34
Yield - bushels of corn	34.88	25.97	30.0	33.33	29.25	29.49	19.46
tons of stover	1.55	1.12	2.25	1.33	1.50	.98	.57
Labor							
Man hours	25.06	12.98	52.00	47.33	34.32	36.10	18.76
Horse hours	44.49	32.79	56.25	86.67	60.61	70.34	34.33
Tractor hours	-	-	-	-	-	-	.63
ITEMS OF COST							
Growing costs							
Man labor	$ 2.69	1.98	3.29	6.02	3.71	2.34	1.77
Horse labor	3.76	4.14	4.12	5.35	3.98	5.01	1.14
Tractor labor	-	-	-	-	-	-	1.52
Machinery	1.21	.91	1.37	1.10	1.53	.88	.65
Seed	.22	.19	.18	.13	.22	.34	.19
Manure	2.98	3.56	4.62	-	2.82	1.73	1.01
Limestone	.10	-	.94	-	1.18	.32	.22
Phosphate	1.17	-	-	-	-	-	-
Miscellaneous	-	.07	-	-	-	-	.01
Gen'l. farm expense	2.01	1.59	2.28	4.29	2.59	1.03	1.48
Total growing cost	$14.14	12.44	16.80	16.89	16.03	11.65	8.00
Harvesting costs							
Man labor	$ 2.86	.87	8.29	4.41	4.08	4.83	2.38
Horse labor	1.31	.91	2.02	2.46	1.42	1.90	1.04
Total harvesting cost	$ 4.59	2.18	10.35	6.87	5.78	6.73	3.65
Cost of growing and harvesting	$18.73	14.62	27.15	23.77	21.81	18.38	11.66
Taxes	.51	1.22	.64	.25	.73	.28	.46
Interest on land	4.30	3.65	4.00	1.02	4.00	3.17	3.07
TOTAL COST	$23.54	19.49	31.79	25.04	26.54	21.83	15.19
INCOME							
Grain	$20.93	15.26	18.00	21.67	17.79	16.46	10.50
Stover	3.10	2.24	4.50	2.66	2.99	1.96	1.13
TOTAL INCOME	$24.03	17.50	22.50	24.33	20.89	18.42	11.63
NET PROFIT PER ACRE	$ .49	-1.99	-9.29	-.71	-5.65	-3.41	-3.56
NET COST PER BUSHEL GRAIN	$ .58	.66	.91	.67	.80	.67	.72
NET COST PER TON FODDER	$ 8.50	9.61	9.63	10.02	10.53	10.86	12.15

CORN FODDER (Continued)

Table 10 - Cost of Production (acre basis) on 11 farms (84 acres)
Clinton County, Illinois, 1927

(Farms ranked in order of cost per ton of fodder)

Farm number	13	19	18	1	Ave. of 11 farms 1927	Ave. of 7 farms 1926
Acres in fodder corn	2.78	6.29	2.00	17.49	7.63	10.88
Yield - bushels of corn	53.96	12.72	10.00	20.46	25.06	12.86
tons of stover	2.00	1.43	1.25	.39	1.05	1.37
Labor						
Man hours	87.05	32.47	23.50	17.18	27.01	17.97
Horse hours	117.27	72.97	53.75	39.34	43.11	36.73
Tractor hours	-	-	-	-	.01	.11
ITEMS OF COST						
Growing costs						
Man labor	$10.12	3.06	3.35	1.93	2.77	3.41
Horse labor	7.92	3.93	2.84	3.09	3.46	4.01
Tractor labor	-	-	-	-	.30	.10
Machinery	1.89	1.74	1.77	.36	.98	1.01
Seed	.09	.83	.14	.22	.25	.28
Manure	2.06	3.31	3.53	2.69	2.48	4.00
Limestone	-	-	-	-	.22	) .65
Phosphate	-	-	-	-	.13	)
Miscellaneous	.10	-	.18	-	.02	.73
Gen'l. farm expense	8.66	1.59	1.66	1.98	2.11	1.46
Total growing cost	$30.84	14.46	13.47	10.27	12.72	15.65
Harvesting costs						
Man labor	$ 9.02	4.14	1.75	1.92	3.17	1.20
Horse labor	5.12	2.50	1.26	1.45	1.58	.50
Total harvesting cost	$14.14	6.64	4.07	3.37	4.94	1.70
Cost of growing and harvesting	$44.98	21.11	17.54	13.65	17.66	17.35
Taxes	.20	.77	.82	.48	.60	.64
Interest on land	3.00	4.00	4.00	4.00	3.61	3.50
TOTAL COST	$48.18	25.88	22.36	18.13	21.87	21.49
INCOME						
Grain	$32.37	7.38	6.00	14.32	15.17	6.38
Stover	3.99	2.86	2.50	.79	2.10	2.74
TOTAL INCOME	$36.36	10.24	8.50	15.11	17.28	9.12
NET PROFIT PER ACRE	-11.82	-15.64	-13.86	-3.01	-4.59	-12.37
NET COST PER BUSHEL GRAIN	$ .82	1.81	1.99	.85	.79	1.46
NET COST PER TON FODDER	$12.39	13.79	13.97	16.32	11.37	11.04

CORN SILAGE

Table 11 - Cost per acre of growing corn for silage and cost per ton of filling the silo, 15 farms (125.49 acres)
Clinton County, Illinois, 1927

(Farms ranked in order of cost per ton of silage for feed)

Farm number	12	13	14	2	5	6	16	15	7
Acres for silage	9.11	7.33	10.84	5.08	4.00	8.56	8.41	8.64	10.7
Yield per acre	6.04	7.45	5.81	8.86	9.62	6.07	4.95	5.21	5.14
Total tons put up	55.	31.	87.	45.	38.5	52.	44.	97.	55.
Growing cost per acre									
Man labor	$ 2.53	3.64	1.39	2.70	3.27	3.09	1.93	4.47	3.41
Horse labor	2.73	3.58	2.48	3.84	6.95	2.96	2.96	2.10	4.20
Tractor labor	1.19	2.58	.44	-	-	-	3.32	1.06	-
Machinery	1.43	1.18	.82	.59	1.47	.58	2.04	1.79	1.54
Seed	.25	.16	.06	.24	.16	.12	.15	.39	.39
Manure	.64	-	.64	3.91	3.56	6.00	.95	2.99	2.82
Limestone and phosphate	.57	-	.20	.73	-	1.35	.47	-	1.18
Gen'l. farm expense	.38	1.56	1.01	.80	1.82	1.27	1.07	1.69	1.99
Taxes	.51	.42	.81	.39	1.22	.69	.59	.64	.73
Interest on land	4.25	2.21	3.50	4.00	3.64	4.50	3.50	4.75	4.00
Miscellaneous	-	-	-	.33	.21	.18	-	.58	-
Total growing cost per acre	$14.48	15.33	11.36	17.53	22.30	20.74	16.98	20.46	20.26
Total growing cost per ton	$ 2.40	2.06	1.96	1.98	2.32	3.41	3.43	3.93	3.94
Filling costs per ton									
Man labor	$ .36	.80	.60	.63	.46	.42	.47	.47	.45
Horse labor	.13	.35	.45	.41	.47	.25	.31	.24	.27
Machinery									
Own tractor	-	.26	-	-	-	-	-	-	-
Own filler	.22	.26	-	-	-	-	-	-	-
Hired (Custom)	.14	-	.50	.53	.60	.48	.52	.53	.54
Fuel	.03	.05	.08	.04	.04	.07	.03	.05	-
Twine	.06	-	.03	.08	.07	.06	.01	.07	.05
Total filling cost	.94	1.72	1.66	1.69	1.64	1.28	1.34	1.36	1.31
Silo depreciation and upkeep	.69	.26	.56	.81	.79	.14	.40	.44	.64
Total cost per ton for feed	$ 4.03	4.04	4.18	4.48	4.75	4.83	5.17	5.73	5.89
Labor per ton									
Man hours - growing	1.87	3.92	.86	1.53	1.54	2.31	1.80	1.80	2.93
- filling	1.61	3.64	2.98	3.18	2.08	1.92	2.30	3.05	1.97
Horse hours - growing	4.05	7.61	2.36	4.41	4.61	5.40	3.63	2.18	9.18
- filling	1.20	3.19	3.44	4.18	3.01	2.73	2.02	4.01	3.02
Tractor hours - growing	.18	.41	.10	-	-	-	.35	.15	-

CORN SILAGE (Continued)

Table 11 - Cost per acre of growing corn for silage and cost per ton of filling the silo, 15 farms (125.49 acres) Clinton County, Illinois, 1927

(Farms ranked in order of cost per ton of silage for feed)

Farm number	20	10	3	8	18	19	Average 15 farms 1927	Average 16 farms 1926
Acres for silage	10.6	11.1	10.	7.90	7.78	15.44	8.37	13.16
Yield per acre	4.90	5.67	4.80	4.94	3.73	3.69	5.88	3.62
Total tons put up	52.	63.	52.	39.	29.	57.	53.1	49.69
Growing cost per acre								
Man labor	$ 2.13	3.80	3.09	3.29	4.02	2.13	3.15	3.09
Horse labor	2.88	4.05	2.10	4.12	4.68	3.20	3.61	3.27
Tractor labor	1.44	-	.73	-	-	.78	.85	.33
Machinery	1.73	1.30	1.14	1.37	1.01	1.35	1.41	1.08
Seed	.40	.31	.22	.17	.13	.62	.26	.18
Manure	3.27	5.40	4.42	4.62	3.79	3.30	3.33	3.63
Limestone and phosphate	.62	1.03	.97	.94	-	.81	.69	.63
Gen'l. farm expense	2.03	3.14	1.11	2.28	.87	.88	1.58	1.15
Taxes	.68	.69	.82	.64	.82	.77	.75	.75
Interest on land	4.00	4.97	5.00	4.00	4.00	4.00	4.40	4.04
Miscellaneous	2.12	-	.13	-	-	-	.30	.51
Total growing cost per acre	$21.30	24.69	19.73	21.43	19.32	17.84	20.33	18.66
Total growing cost per ton	$ 4.34	4.35	4.11	4.34	5.18	4.83	3.46	5.19
Filling costs per ton								
Man labor	$ .41	.33	.68	.55	.29	.67	.50	.68
Horse labor	.54	.30	.20	.40	.18	.46	.33	.42
Machinery								
Own tractor	.10	-	.11	-	-	-	.02	.08
Own filler	.19	-	.39	-	-	-	.06	.07
Hired (Custom)	-	.49	-	.57	.67	.61	.42	.39
Fuel	.04	.04	.03	-	.06	.05	.05	.04
Twine	.09	.11	.08	.03	.05	.14	.07	.08
Total filling cost	1.37	1.27	1.49	1.55	1.25	1.93	1.45	1.76
Silo depreciation and upkeep	.39	.58	.65	.76	.40	1.11	.57	.37
Total cost per ton for feed	$ 6.10	6.20	6.25	6.65	6.83	7.87	5.48	7.32
Labor per ton								
Man hours - growing	1.86	3.02	2.70	3.02	4.71	2.69	2.26	3.42
- filling	1.76	1.33	3.06	2.51	1.31	3.03	2.43	2.71
Horse hours - growing	3.31	1.48	6.42	7.64	15.34	9.21	5.10	8.04
- filling	3.00	2.75	3.12	3.69	2.37	4.88	3.18	3.76
Tractor hours - growing	.47	-	.16	-	-	-	.12	.01

ALFALFA HAY

Table 12 - Cost of production (acre basis) of alfalfa hay on 8 farms (90.99 acres)
Clinton County, Illinois, 1927

(Farms ranked in order of net cost per ton)

Farm number	20	15	14	7	6	1	16	13	True ave. 8 farms 1927	True ave. 10 farms 1926
Acres	12.49	16.7	12.29	3.44	17.16	14.21	5.53	9.17	11.37	7.01
Yield per acre (tons)	2.48	1.80	2.05	1.74	1.63	1.97	1.54	1.06	1.83	1.7
Labor per acre										
Man hours	13.17	14.10	13.87	23.84	9.47	14.39	16.05	16.58	13.85	11.37
Horse hours	15.93	19.88	18.23	37.21	14.16	20.90	16.54	22.46	18.91	15.54
COST ITEMS										
Man labor	$ 3.07	3.11	2.84	5.40	2.13	3.25	3.32	3.65	3.06	2.87
Horse labor	2.83	1.71	2.37	3.32	1.28	2.41	2.65	2.50	2.18	1.81
Seeding	1.68	2.03	1.45	-	1.76	3.85	3.80	1.70	2.13	1.92
Machinery	.92	1.05	1.62	.81	1.63	.63	1.45	1.54	1.22	1.64
Manure	.93	.85	1.20	.80	.98	.77	1.14	.66	.92	1.01
Limestone and phosphate	-	1.26	1.40	.93	1.43	2.49	.89	1.35	1.30	.87
General farm expense	2.26	1.18	2.22	.71	.91	1.64	1.77	1.57	1.55	1.12
Operating Cost	$11.69	11.19	13.10	11.97	10.12	15.04	15.02	12.97	12.36	11.24
Taxes	.68	.65	.81	.65	.69	.91	.59	.20	.67	.82
Interest on land	4.00	5.00	3.50	3.00	4.50	4.00	3.50	3.99	4.14	3.95
TOTAL COST	$16.37	16.84	17.41	15.62	15.31	19.95	19.11	17.16	17.17	16.01
INCOME										
Hay	$45.92	29.46	34.93	29.65	26.86	32.02	27.66	18.07	31.12	35.95
Pasture	-	4.04	-	-	.33	-	2.01	-	.92	.28
TOTAL INCOME	$45.92	33.50	34.93	29.65	27.19	32.02	29.67	18.07	32.04	36.23
NET PROFIT PER ACRE	$29.55	16.66	17.52	14.03	11.88	12.07	10.56	.91	14.87	20.22
NET COST PER TON	$ 6.59	7.12	8.47	8.96	9.19	10.12	11.13	16.14	8.88	9.41

TIMOTHY HAY

Table 13 - Cost of production (acre basis) of timothy hay on 9 farms (31.67 acres) Clinton County, Illinois, 1927

(Farms ranked in order of net cost per ton)

Farm number	16	8	20	21	2	6	14	5	7	True ave. 9 farms 1927	True ave. 10 farms 1926
Acres of timothy	2.68	3.44	3.22	5.28	4.87	2.41	3.15	3.41	3.21	3.52	4.53
Yield per acre (tons)	2.98	1.89	1.86	1.33	1.23	1.24	1.27	.88	1.40	1.52	1.02
Labor per acre											
Man hours	11.66	14.24	12.73	6.63	6.98	9.54	13.49	2.40	16.51	10.02	8.56
Horse hours	13.99	18.02	14.29	7.39	11.08	14.11	15.08	4.99	23.05	.13	10.43
COST ITEMS											
Man labor	$ 2.40	3.18	2.96	1.47	1.39	2.10	2.72	.55	3.10	2.11	2.07
Horse labor	2.18	2.00	2.53	.84	1.09	1.27	1.97	.79	1.67	1.51	1.21
Seed	.75	.25	-	-		-	-	-	5.22	.62	.25
Manure	1.14	-	-	.85	1.12	.99	-	1.02	.81	.68	.96
Limestone	1.58	-	-	-	1.07	-	-	-	-	.30	.13
Machinery	1.17	1.09	.22	.54	.22	1.65	.72	.75	.40	.68	1.01
General farm expense	1.34	1.21	2.20	.63	.25	.87	1.99	.30	1.34	1.04	.75
Miscellaneous	-	-	-	-	-	-	-	-	-	-	.34
Operating cost	$10.56	7.73	7.91	4.33	5.14	6.87	7.40	3.41	12.54	6.94	6.72
Taxes	.59	.64	.68	.52	.60	.44	.81	1.22	.65	.68	.80
Interest on land	3.50	4.00	4.00	4.30	3.25	3.00	3.50	3.65	3.00	3.63	3.45
TOTAL COST	$14.65	12.37	12.59	9.15	8.99	10.31	11.71	8.28	16.19	11.25	10.96
INCOME											
Hay	$53.73	34.01	33.54	23.86	22.18	22.41	22.86	15.84	25.23	27.28	22.34
Pasture	-	-	-	-	-	-	-	-	-	-	-
TOTAL INCOME	$53.73	34.01	33.54	23.86	22.18	22.41	22.86	15.84	25.23	27.28	22.34
NET PROFIT PER ACRE	$39.08	21.64	20.95	14.72	13.19	12.10	11.15	7.55	9.05	16.03	11.38
NET COST PER TON	$ 4.91	6.54	6.77	6.88	7.31	8.29	9.23	9.41	11.56	7.43	10.79

CLOVER HAY

Table 14 - Cost of production (acre basis) on 11 farms (164.52 acres)
Clinton County, Illinois, 1927

(Farms ranked in order of net cost per ton)

Farm number	21	18	2	12	4	7	13
Acres in clover hay	22.6	14.66	10.63	6.77	25.01	8.7	9.45
Yield per acre (ton)	1.77	.92	1.13	1.27	1.24	1.15	1.16
Labor per acre							
Man hours	9.71	8.19	11.95	11.93	6.72	8.46	8.99
Horse hours	11.68	11.87	14.30	17.73	11.00	11.61	10.79
COST ITEMS							
Man labor	$ 2.15	1.80	2.39	2.67	1.89	1.98	2.00
Horse labor	1.33	.90	1.37	1.83	1.61	1.06	1.20
Seed	2.12	2.46	1.30*	2.49	2.15*	2.13*	2.31
Machinery	.81	.48	.38	1.82	.94	.30	.92
Manure	.85	1.01	1.12	1.34	.70	.80	.66
Limestone & phosphate	.14	.98	1.11	1.84	.88	1.19	.72
General farm expense	.92	.58	.43	.58	.74	.81	.85
Hulling	.69	.42	.54	.33	-	-	-
Operating cost	$ 9.01	8.63	8.64	12.95	8.91	8.27	8.66
Taxes	.52	.82	.39	.56	.90	.73	.54
Interest on land	4.30	4.00	4.00	4.81	4.00	4.00	4.64
TOTAL COST	$13.83	13.45	13.03	18.32	13.81	13.00	13.84
INCOME							
Hay	$28.50	16.82	18.06	22.42	22.15	18.39	19.79
Seed	4.23	2.66	3.30	1.84	-	-	-
Straw	-	.61	.56	.89	-	-	-
Pasture	.08	3.34	-	3.69	-	-	-
TOTAL INCOME	$32.81	23.43	21.92	28.84	22.15	18.39	19.79
NET PROFIT PER ACRE	$18.98	9.98	8.89	10.52	8.34	5.39	5.95
NET COST PER TON	$ 5.38	7.41	8.12	9.37	11.14	11.31	11.89

*Clover and Alfalfa

CLOVER HAY (Continued)

Table 14 - Cost of production (acre basis) on 11 farms (164.52 acres) Clinton County, Illinois, 1927

(Farms ranked in order of net cost per ton)

Farm number	10	8	19	3	True ave. 11 farms 1927	True ave. 12 farms 1926
Acres in clover hay	19.84	15.53	19.03	12.3	14.96	12.32
Yield per acre (tons)	1.18	1.03	1.05	.89	1.19	.52
Labor per acre						
Man hours	9.27	9.14	9.98	10.32	9.22	5.83
Horse hours	11.69	11.01	13.93	13.01	12.25	7.77
COST ITEMS						
Man labor	$ 2.08	2.05	2.22	2.29	2.10	1.46
Horse labor	1.26	1.26	1.31	.83	1.28	.96
Seed	2.47*	2.86*	2.20	5.16	2.48	2.39
Machinery	.85	.82	1.52	.61	.87	.85
Manure	1.55	1.32	.95	.83	1.00	1.02
Limestone & phosphate	1.18	1.06	1.00	1.05	.93	.89
General farm expense	1.43	.79	.63	.81	.82	.52
Hulling		.23	-	-	.20	.22
Operating cost	$10.82	10.39	9.83	11.58	9.68	8.31
Taxes	.70	.64	.77	.82	.69	.68
Interest on land	5.00	4.00	4.00	5.00	4.31	4.30
TOTAL COST	$16.52	15.03	14.60	17.40	14.68	13.29
INCOME						
Hay	$20.14	15.45	17.87	14.31	20.00	10.60
Seed	-	1.45	-	-	1.24	2.01
Straw	-	.39	-	-	.17	.15
Pasture	1.42	-	-	-	.63	.47
TOTAL INCOME	$21.56	17.29	17.87	14.31	22.04	13.23
NET PROFIT PER ACRE	$ 5.04	2.26	3.27	-3.09	7.36	-.06
NET COST PER TON	$12.75	12.80	13.89	19.45	10.57	20.45

*Clover and Alfalfa

Hogs

Hogs are not a very important source of income on these Clinton county farms. The production of pork in 1927 varied per farm from 1,715 pounds on farm 7 to 7,881 pounds on farm 14. The average farm production for the 18 farms was 3,854 pounds.

Raising hogs was not as profitable an enterprise in 1927 as it had been in 1926. One-half the farms showed a loss in the growing of pork in 1927, and the losses on these farms were enough to make the average for the 18 farms for the year a small loss of 18 cents a hundred pounds. This compares with an average profit of $4.01 a hundred in 1926.

While there was some increase in the feed costs in 1927 over the feed costs in 1926, this difference was very slight. The principal cause of the unfavorable showing of hogs in 1927 compared with 1926 was in the prices received for the pork. The average price at which the pork was sold in 1927 was only $8.56 a hundred pounds, compared with an average price of $12.23 in 1926. However, on the average, hogs have shown favorable returns over a period of years when the ratio between corn and hog prices has been nearer normal than it was in 1927. High costs are frequently due to direct losses caused by disease, unthrifty hogs coming from internal parasites or disease, losses of pigs at farrowing time, or poor feeding practices.

Poultry

All of the farms raised poultry, and the average size of flock was 252 hens. The average farm flock, such as is on these farms, fits into the farm business very well by using labor that might otherwise be unproductive and feed that might be wasted.

Although the number of eggs sold in 1927 exceeded the number sold from these farms in 1926, the total value of all the eggs produced fell $148.63 short of the value of the eggs produced by the average flock on these farms in 1926. This marked difference in poultry income in the face of somewhat higher production costs showed the 1927 poultry enterprise making an average loss of $8.10 per farm compared with the rather substantial profit of $155.87 in 1926. Only one-half of the farms showed a profit from poultry in 1927, while the year previous all but one farm showed a favorable balance after paying all costs. The average cost of producing a dozen eggs in 1927 was 29.4 cents.

In arriving at the costs in poultry production, all labor, whether done by men, women or children, is charged at the same rate per hour. Also, no difference is made for different seasons of the year. As a result a rather heavy charge is made for labor, at least some of which would hardly have been used productively in any other way on many farms.

The results were not influenced by abnormal conditions in any way except the low price of grains reducing the feed cost. The size of the poultry enterprise in relation to the other enterprises on the farms is of importance in interpreting these results. The demands by poultry for labor, feed, and equipment, and the effect upon the farm business, are quite different when the enterprise becomes a major instead of a minor one. Poultry was a minor enterprise on all of these farms which is typical of the majority of farms in the east central section of the state.

Bull and Young Stock

In the records kept on these dairy farms the costs on the herd bull and on the young dairy stock that is being grown into heifers to replenish the cow herd, are kept separate from the producing dairy herd. The cost of carrying these young animals and the bull are shown on Table 18.

Table 15 - Cost of production per 100 pounds of pork on 18 farms (69,373 pounds pork)
Clinton County, Illinois, 1927
(Farms ranked in order of cost of producing 100 pounds)

Farm number	10	20	18	14	8	4	21	15	7	6
COST ITEMS										
Feed	$ 4.98	5.11	6.17	5.50	5.49	5.77	6.95	6.27	5.30	6.51
Man labor	.48	.58	.62	.62	1.46	1.11	.71	1.30	2.17	1.17
Horse labor	-	-	-	.04	.10	.11	.03	.05	-	.04
Interest on investment at 5%	.12	.21	.11	.22	.07	.33	.08	.18	.12	.28
Buildings and equipment	.26	.04	.02	.44	.06	.36	.07	.16	.29	.37
Veterinary and medicine	.03	.08	-	.06	-	.13	-	.03	-	-
General farm expense	.34	.43	.20	.45	.56	.45	.30	.49	.93	.48
Miscellaneous	.04	.05	.03	.05	.10	.07	.29	.08	.03	.03
TOTAL COST	$ 6.25	6.50	7.15	7.38	7.84	8.33	8.43	8.56	8.84	8.88
INCOME										
Increase	$ 5.54	4.94	1.06	6.26	.27	7.68	-.76	4.99	2.31	1.04
Used in household	2.67	2.82	9.02	.49	8.86	2.49	9.94	3.05	6.64	8.76
Manure	-	-	-	-	-	-	-	-	-	-
Miscellaneous	-	-	-	-	-	-	-	-	-	-
TOTAL INCOME	$ 8.21	7.76	10.08	6.75	9.13	10.17	9.18	8.04	8.95	9.80
PROFIT PER 100 POUNDS	$ 1.96	1.26	2.93	-.63	1.29	1.84	.75	-.52	.11	.92
Amount of feed (pounds)										
Corn equivalent	257.11	341.13	403.66	430.60	388.04	346.01	487.99	510.15	395.10	410.27
Corn	257.11	141.13	403.66	430.60	338.04	320.95	487.99	508.80	395.10	348.31
Oats	-					1.01				20.64
Barley	-					-		1.35		
Wheat	-					24.19				44.23
Tankage equivalent	22.81	11.78	21.40	13.78	19.24	38.10	21.77	5.41	3.03	21.01
Skim milk	-				-	324.29	2.28		4.02	
Protein meal	1.32	2.13		5.08	5.43	1.58		1.35		21.88
Mill feeds	43.51	22.36	21.40	20.30	27.17	21.34	71.68	8.11	5.83	
Soybeans	-				.82	-				2.76
Pasture days	2.70	.94	3.83	2.53	1.77	2.34	2.42	2.32	3.12	2.35
Straw (bedding)	30.32	38.34	45.77	15.23	38.04	55.34	22.40	25.68	69.97	46.07
Labor										
Man hours	2.15	2.50	2.75	3.07	6.63	4.01	3.19	5.86	9.59	5.31
Horse hours	.04	-	-	.30	2.83	.70	.31	.62	-	.39
Total pounds pork produced	7,585	4,695	1,748	7,881	1,840	6,325	2,232	7,399	1,715	4,341
Pounds pork used in household	2,190	1,470	1,615	425	1,720	1,585	2,400	2,507	1,200	3,947
Pounds pork sold	3,385	5,660	433	6,796	-	4,565	-	1,242	490	2,124
Pounds pork lost by death	150	125	-	195	-	75	-	20	-	-

Table 15 - Cost of production per 100 pounds of pork on 18 farms (69,373 pounds pork)
Clinton County, Illinois, 1927
(Farms ranked in order of cost of producing 100 pounds)

Farm number	13	1	19	20	5	12	16	3	True ave. 18 farms 1927	True ave. 19 farms 1926
COST ITEMS										
Feed	$ 7.21	8.05	7.59	7.63	7.78	9.08	10.21	11.50	6.62	6.25
Man labor	1.15	.63	.95	1.98	1.64	1.29	1.46	1.63	1.04	1.07
Horse labor	.03	.03	.06	.01	.15	.06	.10	.06	.05	.04
Interest on investment at 5%	.18	.11	.13	.20	.17	.36	.28	.44	.20	.20
Buildings and equipment	.08	.11	.29	.05	.13	.24	1.03	.01	.24	.17
Veterinary and medicine	.15	.15	.14	-	-	-	.04	.13	.06	.08
General farm expense	.50	.33	.27	.36	.91	.28	.81	.58	.45	.35
Miscellaneous	.02	.01	.17	.26	.03	.05	.16	.15	.08	.06
TOTAL COST	$ 9.32	9.42	9.60	10.49	10.81	11.36	14.09	14.50	8.74	8.22
INCOME										
Increase	$ 3.67	8.27	2.64	2.27	3.03	4.37	3.69	-4.28	4.16	6.78
Used in household	5.50	1.78	5.27	6.26*	5.91	2.34	6.38	11.16	4.36	5.45
Manure	-	-	.11	-	-	.80	-	-	.04	-
Miscellaneous	-	-	-	-	-	-	-	-	-	-
TOTAL INCOME	$ 9.17	10.05	8.02	8.53	8.94	7.51	10.07	6.88	8.56	12.23
PROFIT PER 100 POUNDS	$ -.15	.63	-1.58	-1.96	-1.87	-3.85	-4.02	-7.62	-.18	4.01
Amount of feed (pounds)										
Corn equivalent	484.65	442.15	355.32	600.57	511.18	614.70	527.12	787.37	433.97	411.32
Corn	478.81	442.15	355.32	600.57	511.18	614.70	503.38	787.37	426.54	402.10
Oats	-	-	-	-	-	-	-	-	1.38	4.59
Barley	-	-	-	-	-	-	-	-	.14	3.24
Wheat	5.84	-	-	-	-	-	23.74	-	6.10	2.00
Tankage equivalent	36.03	44.04	41.10	33.95	40.76	14.40	109.98	33.05	26.54	37.74
Skim milk	.83	-	-	63.92	54.77	-	1325.14	-	77.57	143.09
Protein meal	34.05	5.93	-	4.44	-	3.69	-	4.93	5.46	8.26
Mill feeds	7.30	70.62	81.14	53.98	77.59	21.05	-	61.17	31.00	30.84
Soybeans	-	1.69	-	-	-	-	-	-	.28	4.60
Pasture days	1.29	6.67	1.77	3.57	1.87	3.85	4.04	4.39	2.68	1.99
Straw (bedding)	38.92	-	7.61	31.96	18.26	59.08	39.56	128.27	34.88	21.38
Labor										
Man hours	5.25	2.82	4.28	10.00	7.47	5.82	7.11	7.38	4.68	4.27
Horse hours	.24	.28	.66	.12	.96	.56	.64	.89	.45	.35
Total pounds pork produced	4,111	3,540	3,944	2,816	2,191	2,708	2,275	2,027	3,854	4,102
Pounds pork used in household	2,477	700	2,185	1,916	1,380	705	1,600	2,365	1,799	1,881
Pounds pork sold	-	2,270	1,259	-	511	2,228	610	722	1,794	2,735
Pounds pork lost by death	130	-	-	25	-	350	-	310	77	113

*Includes 14 cents miscellaneous

POULTRY (Costs per farm flock)

Table 16 - Costs of production on entire flock on 18 farms
Clinton County, Illinois, 1927

Farm number	2	20	8	1	7	21	15	3	18	4
COST ITEMS										
Feed	$410.28	494.66	256.60	10.04	444.41	379.49	655.32	261.13	112.27	128.20
Man labor	211.42	101.31	153.37	4.98	107.46	136.95	135.18	83.98	48.62	87.43
Horse labor	3.43	8.87	-	-	1.78	2.33	6.99	.64	2.36	.29
Depreciation	-	-	-	-	-	-	-	-	21.43	-
Interest on investment	23.66	14.96	8.13	8.25	13.19	18.20	17.98	13.28	8.50	6.22
Buildings & Equipment expense	15.57	35.19	24.37	3.07	24.28	50.55	38.84	21.44	11.45	10.92
General farm expense	38.42	75.22	58.03	2.57	46.22	58.26	51.20	30.69	15.78	35.65
Miscellaneous	4.58	4.56	2.47	-	3.25	5.07	1.97	18.68	1.06	-
TOTAL COST	$707.36	734.77	502.97	28.91	640.59	650.85	907.48	429.84	221.47	268.71
INCOME										
Eggs sold	$625.99	840.35	494.36	57.37	611.15	429.38	761.43	331.24	171.45	127.40
Eggs used	60.17	71.03	40.90	31.68	39.47	61.74	73.15	39.92	66.00	38.48
Increase*	271.20	27.77	80.34	45.15	92.13	254.98	106.28	90.73	-	96.92
TOTAL INCOME	$957.36	939.15	615.60	134.20	742.75	746.10	940.86	461.89	237.45	262.80
NET PROFIT	$250.00	204.38	112.63	105.29	102.16	95.25	33.38	32.05	15.98	-5.91
FEED (pounds)										
Farm grains	18,413	20,024	8,820	476	9,570	18,282	17,059	8,541	5,394	4,455
Purchased concentrates	3,575	4,000	3,126	240	9,685	2,700	10,375	2,752	1,090	912
Skim milk	600	1,218	-	-	905	-	-	-	-	1,828
Straw	700	2,000	1,600	-	2,700	2,000	3,200	2,300	1,540	200
LABOR USED										
Man hours	1,065	435	695	22.3	474.5	618.5	613	378.8	221.5	315.5
Horse hours	35	50	-	-	20	20.5	81.5	10	31	2
No. dozen eggs produced	3,193.8	3,593.8	2,185.1	414.6	2,772	2,202	3,603	1,518.9	1,026.2	722.7
No. dozen eggs sold	2,791.3	3,358.5	2,009.2	261.9	2,597	1,821.3	3,217.9	1,385.8	736.2	557.0
No. of hens in flock	420	450	200	152	280	300	405	254	134	105

*The difference between the opening inventory, plus purchases of poultry, and the ending inventory, plus sales of poultry.

POULTRY (Costs per farm flock) (Continued)
Table 16 - Costs of production on entire flock on 18 farms
Clinton County, Illinois, 1927

Farm number	5	12	16	19	13	14	6	10	Average 18 farms 1927	Average 19 farms 1926
COST ITEMS										
Feed	$114.05	231.08	525.10	176.43	290.94	421.29	366.65	740.33	334.35	325.85
Man labor	56.66	63.54	110.17	51.70	155.11	110.61	99.00	176.35	105.21	116.52
Horse labor	2.68	.33	8.02	1.14	.44	8.31	3.70	4.75	3.11	1.23
Depreciation	-	17.83	-	16.76	-	-	-	-	3.11	-
Interest on investment	4.50	14.01	15.93	8.73	11.53	13.95	12.71	20.21	13.00	14.30
Buildings & Equipment expense	8.07	22.01	86.10	34.68	58.17	64.91	43.70	50.80	33.56	25.89
General farm expense	31.51	13.77	61.38	14.71	66.86	80.57	40.77	125.11	47.04	39.28
Miscellaneous	-	9.02	3.74	11.48	6.53	20.50	15.40	32.60	7.83	8.80
TOTAL COST	$217.47	371.59	810.44	315.63	589.58	720.14	581.93	1,150.15	547.21	531.87
INCOME										
Eggs sold	$ 71.61	230.47	493.01	141.99	325.80	420.45	301.74	611.76	394.27	474.48
Eggs used	33.38	52.74	38.02	70 80	20.40	49.98	42.60	38.48	48.28	46.80
Increase*	103.45	-	205.02	11.00	135.63	92.79	61.18	63.55	96.56	166.46
TOTAL INCOME	$208.44	333.21	736.05	223.79	481.83	563.22	405.52	713.79	539.11	687.74
NET PROFIT	$ -9.03	-38.38	-74.39	-91.84	-107.75	-156.92	-176.41	-436.36	-8.10	155.87
FEED (pounds)										
Farm grains	6,399	7,845	21,066	6,124	11,758	10,442	13,226	18,785	11,482	14,655
Purchased concentrates	650	2,980	5,096	1,430	3,925	7,730	4,013	11,914	4,233	3,284
Skim milk	-	-	3,275	-	-	-	-	817	470	1,015
Straw	400	300	3,000	400	600	3,200	2,000	2,500	1,591	200
LABOR USED										
Man hours	257.5	286.5	536	233	705.5	547.3	449.5	795.5	430.5	471.9
Horse hours	17	3	51.5	12	4	63.5	41	44	27.0	10.4
No. dozen eggs produced	440.3	1,411	2,292.8	746	1,388.5	1,638.7	1,592.8	2,240.2	1,831.8	-
No. dozen eggs sold	300.3	1,195.7	2,031.4	460.6	1,243.7	1,460.2	1,235.3	2,004.8	1,592.7	1,203.9
No. of hens in flock	90	320	317	116	190	219	240	345	252	278

*The difference between the opening inventory, plus purchases of poultry, and the ending inventory, plus sales of poultry.

Table 17 - Items of Cost and Income in the "Bull and Young Stock Account" on 18 Clinton County farms, 1927
(Farms ranked in order of net profit in account)

Farm number	12	18	21	16	19	10	1	5	6	3
COST ITEMS (per farm)										
Feed	$203.65	96.07	342.22	162.92	278.48	228.68	119.28	121.47	281,90	87.17
Man labor	3.11	3.29	15.23	21.74	7.88	19.95	6.71	4.40	8.80	7.77
Horse labor	-	-	-	-	-	4.10	-	-	-	-
Interest on investment	11.63	10.19	18.45	12.23	16.61	14.48	7.88	5.25	13.75	5.50
Shelter and equipment	15.79	7.75	9.86	4.18	5.36	10.74	21.83	19.13	12.40	1.55
Registration	-	-	-	-	13.00	-	-	-	-	-
General farm expense	.67	1.07	6.50	12.11	2.24	14.15	3.47	2.45	3.63	2.76
Miscellaneous	1.43	.41	3.47	.97	11.66	4.71	.69	1.07	1.62	1.81
TOTAL COST	$236.28	118.78	395.73	214.15	335.23	296.81	159.86	153.77	322.10	106.56
INCOME (per farm)										
Increase	$450.90	264.88	484.44	288.87	361.11	335.98	208.76	207.81	340.20	140.51
Manure	25.73	22.75	35.53	28.75	40.62	32.26	16.85	8.10	28.92	11.58
Miscellaneous	-	-	-	-	23.00	-	-	-	-	-
TOTAL INCOME	$476.63	287.63	519.97	317.62	424.73	368.24	225.61	215.91	369.12	152.09
NET PROFIT (per farm)	$240.35	168.85	124.24	103.47	89.50	71.43	65.75	62.14	47.02	45.53
Amount of feed (per farm)										
Corn (pounds)	728	42	2,814	2,688	-	-	224	602	-	308
Oats "	192	472	2,240	-	-	3,264	320	-	1,088	-
Commercial feeds "	200	-	560	-	700	-	630	820	100	-
Protein meal "	-	-	-	-	300	-	-	-	-	-
Silage "	26,600	12,100	13,500	15,400	22,900	25,300	-	6,850	20,000	4,600
Legume hay "	3,200	2,400	10,300	2,500	7,590	3,800	4,000	1,950	10,000	2,100
Stover "	-	2,400	5,300	1,000	8,000	600	700	4,200	2,500	800
Other roughage "	-	-	1,300	-	500	-	-	-	-	-
Skim milk "	-	-	-	3,956	-	3,628	-	-	-	-
Whole milk "	3,598	-	1,560	560	1,057	-	858	1,769	2,841	1,888
Pasture days	315	396	1,201	559	782	393	285	164	729	173
Straw (bedding) "	3,400	3,100	5,600	5,200	3,200	5,330	2,450	1,600	7,900	2,800
Labor										
Man hours	14	15	68.75	105.75	35.5	90	30	20	40	35
Horse hours	-	-	-	-	-	38	-	-	-	-
Number of animal units	3.4	2.9	7.6	3.2	4.2	3.4	2.0	.9	3.7	.9

Table 17 - Items of Cost and Income in the "Bull and Young Stock Account" on 18 Clinton County farms, 1927
(Continued)
(Farms ranked in order of net profit in account)

Farm number	15	2	1	8	13	4	20	14	Average 18 farms 1927	Average 19 farms 1926
COST ITEMS (per farm)										
Feed	$312.56	339.26	271.59	201.34	359.59	192.00	305.80	194.05	227.67	251.29
Man labor	20.07	47.94	24.91	6.60	12.09	8.31	9.32	5.96	13.00	20.28
Horse labor	-	-	-	-	-	-	-	-	.23	.30
Interest on investment	20.75	21.58	12.30	13.00	20.00	9.19	15.00	19.30	13.73	12.36
Shelter and equipment	9.41	6.35	8.86	16.30	13.24	8.96	10.20	3.52	10.30	9.29
Registration	-	1.00	-	-	-	-	-	-	.78	2.47
General farm expense	7.60	8.71	10.71	2.51	5.21	3.39	6.92	4.34	5.47	6.22
Miscellaneous	13.84	11.53	3.13	3.23	1.59	.80	4.24	5.43	3.98	3.50
TOTAL COST	$384.23	436.37	331.50	242.98	411.72	222.65	351.48	232.60	275.16	305.71
INCOME (per farm)										
Increase	$365.48	346.22	303.13	188.64	343.82	128.56	197.00	60.63	278.72	243.97
Manure	25.00	51.90	22.71	48.55	17.98	30.55	34.28	45.50	29.31	31.39
Miscellaneous	-	39.00	-	-	-	-	-	-	3.44	-
TOTAL INCOME	$390.48	437.12	325.84	237.19	361.80	159.11	231.28	106.13	311.47	275.36
NET PROFIT (per farm)	6.25	.75	-5.66	-5.79	-49.92	-63.54	-120.20	-126.47	36.31	-30.35
Amount of feed (per farm)										
Corn (pounds)	560	952	-	168	-	280	252	1,064	593	1,232
Oats "	96	320	384	448	-	-	640	640	556	1,230
Commercial feeds "	*390	2,080	485	100	3,200	-	50	300	**533	497
Protein meal "	105	25	-	60	-	-	50	775	73	79
Silage "	32,800	29,100	20,400	19,650	20,500	-	30,700	23,500	17,994	18,439
Legume hay "	8,860	11,000	7,600	7,060	8,200	14,685	8,350	7,700	6,739	6,558
Stover "	-	6,900	1,500	2,600	6,200	-	-	800	2,417	6,582
Other roughage "	-	-	-	-	300	-	-	-	117	967
Skim milk "	-	-	-	-	-	862	860	-	315	719
Whole milk "	3,219	2,765	3,299	619	1,800	-	1,260	567	1,738	-
Pasture days	848	783	690	465	1,395	605	1,100	631	640	722
Straw (bedding) "	9,150	6,000	5,640	3,775	9,300	4,900	7,550	3,300	4,086	5,245
Labor										
Man hours	91	241.5	110	30	55	50	40	29.5	60.06	80.46
Horse hours	-	-	-	-	-	-	-	-	2.11	2.58
Number of animal units	5.1	5.0	4.0	4.6	8.6	3.9	5.9	5.0	4.13	3.89

* Barley
**Includes 21 pounds of barley

FARM POWER COSTS
(Horse labor and tractor labor)

Horses are the principal source of power on these Clinton county farms. Tractors were used on 6 of the 18 farms. Horses or a combination of horses and tractor make up the largest item of expense in operating the farm. This expense is becoming of greater importance because of the tendency to use more and larger machinery. As a result the power and machinery expense per acre varies widely on different farms where the same type of farming is followed.

Horse Labor Costs

Horse labor costs may often be underestimated because the feeds used are largely home-grown, and the labor, interest on investment, depreciation, and shelter do not require a definite cash outlay.

There was a total of 103 work horses on the 18 farms. The figures in Table 18 give the average cost per work horse on each farm.

Feed was the largest item, making up 65 percent to 75 percent of the total cost. The price of feed influences the amounts of feed fed, for there is a tendency to use the cheaper feeds more generously and to be sparing with the feeds that are higher in price.

The net cost of maintaining a horse for a year averaged $101.89 for 1927 and varied from $60.76 as the average on one farm to $136.34 on the farm having the highest cost, or a difference of $65.58, which, it will be noted, is greater than the total cost on the low-cost farm. The cost on farm 14 was over twice that on farm 3. The number of work horses per farm remained practically the same in 1927 as the year previous, being 5.7 horses. Multiplying the difference in cost of carrying a work horse on the high and the low farms by the average number of work horses (65.58 x 5.7) gives $373.81 as the difference in the total cost of horse labor on these two farms in this study.

The average number of hours worked per horse varied from 445 to 1,114. This variation in the amount of work performed by horses was greater than the variation in cost per horse between farms. The cost of an hour of horse labor varied from 6.4 cents to 17.8 cents. The cost of an hour of horse labor depends directly upon the total cost of keeping work horses and the number of hours they work. Economical feeding and a large number of hours of productive use are two factors more than any others then that make for the most economical production of horse power.

Tractor Costs

Six of the 18 farms supplemented their horses with tractor power. None of these farms had more than one tractor. The costs per hour of use varied from $.62 to $2.86. The low and high costs were for two-plow tractors. The one factor which influenced the cost per hour of work more than any other was the hours of use; the reason being that interest on investment and depreciation make up a large part of the total cost and are somewhat fixed. The hours of use varied from 7.5 on farm 12 to 305 on farm 15. While farm 20 did not get the most hours of work out of the tractor, costs on this farm were kept below the costs on the tractor on farm 15.

HORSE LABOR

Table 18 - Net cost on 18 farms (103 work horses), Clinton County, Illinois, 1927

(Farms ranked in order of net cost per hour of horse labor)

Farm number	3	18	15	7	6	19	2	10	8	13
COST ITEMS PER WORK HORSE										
Feed	$53.25	56.02	54.39	74.38	85.11	93.44	82.86	90.14	67.63	93.63
Man labor	7.44	6.26	11.41	23.82	6.75	4.25	17.87	8.71	12.04	13.99
Horse labor	.21	-	.22	-	.05	.11	.50	.30	.11	.58
Interest on investment	2.83	2.10	1.93	3.55	2.20	3.33	3.01	5.64	4.42	3.43
Depreciation	.77	1.50	6.36	-	3.17	11.00	6.87	-	6.67	5.00
Shelter	.77	6.23	2.61	1.81	2.01	3.51	.96	3.11	4.07	2.02
Harness	5.94	2.27	3.11	4.08	3.01	11.75	1.77	5.29	3.05	3.93
Miscellaneous	1.10	.10	.88	1.16	.26	10.22	6.03	2.58	3.19	.48
TOTAL COST PER YEAR	$72.31	74.48	80.91	108.80	102.56	137.61	119.87	115.77	101.18	123.06
Appreciation	-	-	-	6.00	-	-	-	17.37	-	-
Manure credit	$11.55	7.59	4.55	5.29	9.64	9.02	10.53	12.52	10.79	2.12
NET COST FOR YEAR	$60.76	66.89	76.36	97.51	92.92	128.59	109.34	85.88	90.39	120.94
AMOUNTS OF FEED (per work horse)										
Corn (pounds)	1,204	868	1,309	874	1,437	784	1,731	49	1,521	2,033
Oats "	1,073	1,448	1,197	2,688	1,896	2,454	2,000	2,896	1,280	2,722
Other concentrates "	-	-	18	-	33	-	21	35	-	-
Total concentrates "	2,277	2,316	2,524	3,562	3,366	3,238	3,752	2,980	2,801	4,755
Hay "	960	1,775	526	1,030	3,417	3,736	1,804	3,439	2,283	2,300
Other roughage "	1,967	1,634	1,291	809	2,733	1,040	1,924	191	633	780
Number of pasture days	74.3	20	48.61	69.9	5	36	62.9	-	-	15
Straw (bedding) "	1,883	4,475	2,891	2,040	2,183	1,120	1,182	2,123	1,750	3,000
LABOR (chores per work horse)										
Man hours	33.54	28.50	51.64	105.20	30.67	19.15	90.04	39.30	54.58	63.65
Horse hours	3.33	-	2.54	-	.50	1.2	5.08	2.81	1.00	5.20
Number of horse units	6	4	5.5	7.5	6	5	7.5	7.5	6	5
Number of work horses	6	4	5.5	7.5	6	5	6.6	5.7	6	5
Hours of work per work horse for year	957	879	891	1,094	1,031	1,366	1,114	796	829	1,082
NET COST PER HOUR	$ .06	.08	.09	.09	.09	.09	.10	.11	.11	.11

HORSE LABOR (Continued)

Table 18 - Net cost on 18 farms (103 work horses), Clinton County, Illinois, 1927

(Farms ranked in order of net cost per hour of horse labor)

Farm number	12	21	1	14	4	16	5	20	True ave. 18 farms 1927	True ave. 19 farms 1926
COST ITEMS PER WORK HORSE										
Feed	$63.64	85.95	105.25	95.23	105.46	86.49	88.86	96.52	82.38	84.13
Man labor	8.14	6.95	8.52	19.99	11.65	6.53	12.23	5.94	10.99	11.81
Horse labor	-	.28	.27	.03	.97	-	.13	-	.22	.16
Interest on investment	3.11	2.54	6.56	4.00	2.93	5.03	4.40	4.41	3.63	3.74
Depreciation	-	3.52	-	18.00	7.47	6.14	7.00	5.20	4.85	4.91
Shelter	6.41	2.63	6.30	1.92	2.31	3.12	7.50	5.76	3.31	2.78
Harness	5.65	4.42	3.03	5.95	3.02	4.45	4.85	2.57	4.29	4.14
Miscellaneous	.83	3.49	1.20	1.33	.81	.42	1.43	1.79	2.07	2.26
TOTAL COST PER YEAR	$87.78	109.78	131.13	146.45	134.62	112.18	126.40	122.19	111.74	113.93
Appreciation	7.60	-	.96	-	-	-	-	-	1.82	1.49
Manure credit	6.43	6.16	9.72	10.11	6.21	9.58	4.39	7.62	8.03	8.78
NET COST FOR YEAR	$73.75	103.62	120.45	136.34	128.41	102.60	122.01	114.57	101.89	103.66
AMOUNTS OF FEED (per work horse)										
Corn (pounds)	1,666	1,382	668	280	875	832	543	2,531	1,140	1,846
Oats "	1,702	2,340	3,432	2,714	2,321	1,998	2,272	2,010	2,140	1,873
Other concentrates "	8	16	10	-	-	-	146	-	15	23
Total concentrates "	3,376	3,738	4,110	2,994	3,196	2,830	2,961	4,541	3,295	3,742
Hay "	720	2,584	2,715	4,020	6,096	3,543	3,020	1,700	2,575	2,437
Other roughage "	1,440	1,048	769	3,020	944	715	2,500	1,761	1,366	3,177
Number of pasture days	14.0	55.0	110.6	50.2	45.6	88.6	57.00	-	43.7	27.6
Straw (bedding) "	2,000	1,600	279	820	1,887	1,700	1,440	2,680	1,905	-
LABOR (chores per work horse)										
Man hours	36.7	31.4	34.62	98.85	42.01	31.75	55.6	25.50	49.88	46.96
Horse hours	-	2.4	2.12	.20	6.62	-	.8	-	1.97	1.37
Number of horse units	5.0	6.25	8.0	5.0	7.1	7.0	5.0	5.0	6.0	5.9
Number of work horses	5.0	6.25	5.2	5.0	7.1	7.0	5.0	5.0	5.7	5.8
Hours of work per work horse for year	661	910	1,043	1,042	876	659	775	445	926	871
NET COST PER HOUR	$ .11	.11	.12	.13	.15	.16	.16	.18	.11	.12

TRACTOR COSTS

Table 19 - Total operating cost of tractor and hours of use
Clinton County, Illinois, 1927

(Farms ranked in order of net cost per hour)

Farm number	20	15	3	13	16	12
COST ITEMS						
Fuel and oil	$ 88.65	81.62	20.92	30.92	57.30	6.28
Repairs	1.60	3.50	-	-	5.14	-
Man labor	5.36	4.02	.22	-	2.93	.44
Shelter	1.48	2.59	-	2.52	5.27	-
Depreciation	30.00	83.70	135.75	75.00	159.00	12.75
Insurance	-	-	-	-	4.00	-
Int. on investment at 5%	15.60	16.00	18.52	36.25	52.82	2.00
TOTAL COST PER TRACTOR	$142.69	191.43	175.41	144.69	286.46	21.47
HOURS tractor used						
Field work	216.5	298	199	92	107.50	7.5
Belt work	13.5	7.	7.	5.5	51.25	-
TOTAL WORK HOURS	230	305	206	97.5	158.75	7.5
NET COST PER HOUR	$ .62	.63	.85	1.48	1.80	2.86
Crop acres in farm	137.12	158.84	144.15	90.94	136.23	78.37
Number of tractors	1	1	1	1	1	1
Number of plows	2	2	2	3	3	2

Department of Farm Organization and Management
College of Agriculture, University of Illinois
Urbana, Illinois

1927

COMPLETE COSTS AND FARM BUSINESS ANALYSIS

On 15 Farms in

CHAMPAIGN AND PIATT COUNTIES, ILLINOIS

(Grain Farming Section)

Index

COMPLETE COSTS AND FARM BUSINESS ANALYSIS ON 15 FARMS IN CHAMPAIGN AND PIATT COUNTIES, 1927

By H. C. M. Case, R. H. Wilcox, J. B. Andrews

Introduction

This preliminary report is based upon the records kept by 15 farmers in Champaign and Piatt counties for the year 1927 in cooperation with the Department of Farm Organization and Management, University of Illinois. This is the eighth year that detailed cost investigations have been conducted on farms in this area.

Purpose

The purpose of the detailed cost accounting investigations is to study in detail the organization and operation of farms which are representative of the type of farming found in the east central section of the state. This study, by determining cost, gives the relationship of the different parts of the farm business to each other and the relative importance of each in contributing to the total farm income.

The results included in this report are for individual farms for the one year (1927) and for one area, and including the average results from all farms included in the study for the two preceding years.

The Area

Champaign and Piatt counties are located in the east central section of the state. The land is level, practically all tillable, and for the most part relatively high in natural fertility. This section of the state is commonly called the corn and oats section because the sale of these crops makes up most of the farm income. Livestock is a major enterprise on some farms, but on the average the income from livestock is smaller than that from grain crops.

The Year 1927

The weather conditions of 1927 were the most unusual of any year in the memory of those now farming. Rains during the fall of 1926 prevented the normal amount of fall work being done, and the corn husking was delayed in some cases to February 1927. In addition to this delayed start in the farm work, warm weather was slow in coming in the spring of 1927 and the rains continued until the first week in June, giving very little time for field work. The proportion of crops planted, however, changed but little from what it was during previous years, which means that these 15 farmers did very well in putting in their regular crops without having to change their cropping system to any great extent. The unfavorable conditions did cause a lower yield of the grain crops and a lower quality of all crops. The yield of hay was larger than what is usually expected, but hay is a very small proportion of the total acreage and therefore had little effect upon the farm income.

Thirteen different crops were grown on the 15 farms which is a greater variety than usually found on the farms cooperating. However, some of these crops were on a very small percentage of the total crop acreage, and affected the proportion of the major crops only slightly. There was an increase in the acreage of clover and a decrease in both oats and corn.

Crop	Percent of crop land		Average net cost a bushel or ton		Variation in cost			
					High		Low	
	1926	1927	1926	1927	1926	1927	1926	1927
Corn	50.0	44.8	.52	.60	.62	.91	.40	.44
Oats	28.0	25.8	.52	.60	.89	1.21	.37	.33
Winter wheat	12.0	12.5	1.30	1.17	2.02	1.56	.86	.98
Soybeans (threshed)	6.0	6.4	1.69	1.84	3.79	3.22	.94	1.07
Clover & mixed hay	1.2	4.2	----	12.82	----	19.41	---	6.12
Sweet clover	---	2.0	----	----	----	----	---	----
Soybean hay	.8	1.1	----	----	----	----	---	----
Spring wheat	---	1.1	----	----	----	----	---	----
Other crops	2.0	2.1	----	----	----	----	---	----

One point of special interest in comparing the figures of 1926 and 1927 is the number of miscellaneous crops that were introduced. The acreage is not large enough to have any noticeable effect upon the cropping plans but the fact that they were attempted shows the inclination to add diversity to the crop production in East Central Illinois and thereby reduce the risks of unfavorable conditions and also to try to find a place for crops that will give a greater cash return, produce more feed or improve the soil and at the same time will not make unusual demands for power, labor, or equipment. Whether or not these miscellaneous crops will meet these requirements sufficiently to become permanently established in East Central Illinois cropping systems cannot be determined on the basis of one year's results. The figures for all miscellaneous minor crops for 1927 show a loss, but it must be remembered that most of them were grown as emergency crops to make the best of an unfavorable season.

It is apparent from the above table that there is considerable variation in the costs of crop production. This variation has always been present in all cost figures gathered by this department during the last 15 years in different sections of the state. The natural advantages of soil and climate for any section in any particular year have been quite similar as affecting the individual farms--and therefore were responsible in only a very small degree for these differences in cost. The net cost an acre does not vary as much as the cost a bushel which means that yield is an important factor influencing economical production.

The factors which cause differences in yield when the soil type and weather conditions are similar are (1) the care of the soil, (2) selection of seed, and (3) timely work. (Insects had little effect on crop yields on these cooperating farms but might be one of the important factors).

Corn

The average cost of producing a bushel of corn was $.60 or $.08 higher than in 1926. The range of differences in cost was greater, it being $.44 to $.91, while in 1926 it was $.42 to $.60.

The corn yield was about 10 bushels less an acre than in 1926 and the quality of the corn was also poorer. However, the price of corn was higher during 1927 and the lower quality of corn was valued higher than the better corn of 1926. The increased price and a slightly reduced net cost an acre gave a greater net profit for an acre of corn in 1927 than for 1926. A price is placed on the corn at husking time based on market prices and credit given the corn field at that time.

The costs of growing and harvesting are separated because there is a choice of harvesting methods which may be selected. Husking by hand was the principal method used and is the only one given in the accompanying table. The total acreage of corn produced on the 15 farms was 1,622.18, divided as follows: Husked by hand 1,513.5, hogged down 68.9, fodder 27.06, and silage 12.72 acres. No mechanical pickers were used on these farms during 1927.

Oats

The cost of producing a bushel of oats averaged $.60 and varied from $.33 to $1.21. The extremely high cost was due partly to the continued wet and cold weather killing the early sowing. Resowing doubled the cost of growing and because it was late, the yield was low.

The average loss an acre was $6.32 which is similar to former years. Rarely has the production of oats shown a net profit on the average, but they retain their place in the cropping system because they fit in with the more profitable crops by not requiring attention at the same time. Another reason is that the operating cost (growing and harvesting) is only 35 to 40 percent and the land charge (interest and taxes) is 60 to 65 percent of the total cost. The tenant furnishes the operating costs and the landowner must bear the land charge and usually both receive one-half of the oats. In other words, the landowner bears most of the expense for an equal share of the grain, and besides the tenant gets the use of the straw and pasture. It may not be possible to eliminate oats generally to any great extent but individual farmers that have reduced the oats acreage to the minimum in favor of the more profitable crops have realized a greater net farm income. Oats is one of the important crops to give a balanced labor demand to the Central Illinois cropping system and balance is one of the most important factors for efficient production. The plan should be to reduce the acreage of oats by elimination or substitution as much as possible without affecting adversely the most efficient use of labor, power, and equipment.

CORN (Husked in Field)

Table 1. Costs of Production (acre basis) on 15 farms (1,513.5 acres, 66,612 bushels)
Champaign-Piatt Counties - 1927
(Farms ranked in order of net cost a bushel)

Farm number	26	27	24	29	8	15	10	23	28
Acres in corn	151.07	71.78	57.77	87.91	96.13	47.70	125.	87.57	104.35
Yield an acre (bu.)	44.8	60.7	52.0	42.3	50.1	64.1	49.1	45.0	34.3
Labor an acre									
Man hours	12.2	15.3	14.0	9.1	14.7	19.5	13.5	11.70	12.6
Horse hours	33.6	31.3	28.5	21.4	39.5	39.4	26.0	23.9	35.1
Tractor hours	--	1.9	1.9	1.1	--	1.8	1.8	1.5	--
COST ITEMS									
Growing costs									
Man labor	$ 2.08	2.79	2.16	1.61	2.71	3.04	2.03	2.27	2.36
Horse labor	2.95	2.89	2.05	2.31	3.82	2.86	2.21	1.98	3.37
Tractor labor	---	1.02	2.03	.85	---	1.26	1.52	2.30	---
Machinery	.50	.63	.95	.65	.64	1.03	.59	1.09	.52
Seed	.47	.36	.31	.22	.70	.44	.19	.25	.33
Manure	.65	1.02	1.24	1.54	.65	1.50	.31	.42	1.47
Gen'l farm expense	1.09	1.18	1.57	1.08	2.43	3.48	1.47	2.53	1.10
Miscellaneous	---	1.59	.80	---	---	---	---	---	.26
Total Growing Cost	$ 7.74	11.48	11.11	8.26	10.95	13.61	8.32	10.84	9.41
Harvesting costs									
Man labor	2.46	3.28	1.88	2.25	3.45	5.25	2.95	2.52	2.25
Horse labor	1.11	1.71	1.66	1.26	1.56	1.73	1.98	1.41	.98
Total harvesting	$ 3.57	4.99	3.54	3.51	5.01	6.98	4.93	3.93	3.23
Cost of growing and harvesting	$11.31	16.47	14.65	11.77	15.96	20.59	13.25	14.77	12.64
Taxes on land	2.17	2.18	1.54	1.85	2.07	2.52	2.25	1.86	1.53
Interest on land	6.26	10.00	10.00	8.75	10.00	12.21	13.53	10.00	7.64
TOTAL COST	$19.74	28.65	26.19	22.37	28.03	35.32	29.03	26.63	21.81
INCOME									
Grain	$31.07	42.87	35.86	28.45	34.62	45.12	34.03	30.83	22.81
Pasture	.25	.54	.86	.82	1.34	.54	.16	.03	1.19
TOTAL INCOME	$31.32	43.41	36.72	29.27	35.96	45.66	34.19	30.86	24.00
NET PROFIT AN ACRE	$11.58	14.76	10.53	6.90	7.93	10.34	5.16	4.23	2.19
NET COST A BUSHEL	$ .44	.46	.49	.50	.53	.54	.59	.59	.60

CORN (Husked in Field) (Continued)

Table 1. Costs of Production (acre basis) on 15 farms (1,513.5 acres, 66,612 bushels) Champaign-Piatt Counties - 1927

(Farms ranked in order of net cost a bushel)

Farm number	18	22	25	30	13	11	1927 True Av. 15 farms	1926 True Av. 15 farms	1925 True Av. 16 farms
Acres in corn	137.96	86.54	55.67	51.44	181.76	170.81	100.9	104.0	106.1
Yield an acre (bu.)	43.8	43.3	41.8	33.0	43.7	31.9	44.0	53.78	51.74
Labor an acre									
Man hours	12.6	18.8	12.5	14.3	11.9	10.6	12.7	14.1	13.9
Horse hours	31.4	49.3	37.7	27.4	24.9	19.6	30.6	31.2	34.1
Tractor hours	.6	---	---	2.4	2.3	1.7	1.16	1.0	.9
COST ITEMS									
Growing costs									
Man labor	$ 1.72	3.44	2.53	2.91	2.08	2.17	2.30	2.30	
Horse labor	2.60	2.74	3.26	2.31	2.17	2.08	2.60	2.65	
Tractor labor	.55	---	---	1.28	2.07	1.37	.97	1.10	
Machinery	.35	.55	1.07	.46	.81	.51	.65	.74	
Seed	.71	.18	.25	.24	.46	.32	.39	.41	
Manure	1.75	1.90	2.29	.82	2.01	1.09	1.24	1.00	
Gen'l farm expense	2.54	1.96	2.09	1.39	1.85	1.49	1.76	2.25	
Miscellaneous	.13	.16	---	---	---	.28	.17	.13	
Total Growing Cost	$10.35	10.93	11.49	9.41	11.45	9.31	10.08	10.58	
Harvesting costs									
Man labor	$ 2.94	2.93	2.45	2.72	3.14	2.40	2.80	2.97	
Horse labor	2.00	.99	1.47	1.08	1.49	1.03	1.42	1.45	
Total harvesting	$ 4.94	3.92	3.92	3.80	4.63	3.43	4.22	4.42	
Cost of growing and harvesting	$15.29	14.85	15.41	13.21	16.08	12.74	14.30	15.00	16.43
Taxes on land	1.80	1.93	1.88	1.69	2.18	2.83	2.08	2.24	2.00
Interest on land	10.00	9.95	10.00	7.06	12.27	13.74	10.36	11.41	12.04
TOTAL COST	$27.09	26.73	27.29	21.96	30.53	29.31	26.74	28.65	30.47
INCOME									
Grain	$30.72	26.97	28.14	22.24	29.80	22.47	30.21	26.89	27.57
Pasture	.51	---	.38	.30	.02	.20	.44	.55	.96
TOTAL INCOME	$31.23	26.97	28.52	22.54	29.82	22.67	30.65	27.44	28.53
NET PROFIT AN ACRE	$ 4.14	.24	1.23	.58	-.71	-6.64	3.91	-1.21	-1.94
NET COST A BUSHEL	$ .61	.62	.64	.66	.70	.91	.60	.52	.57

OATS

Table 2. Costs of Production (acre basis) on 13 farms (890.66 acres, 25,750 bushels)
Champaign-Piatt Counties - 1927
(Farms ranked in order of net cost a bushel)

Farm number	8	29	26	22	27	23	28	24
Acres in oats	30.88	68.33	113.34	31.63	39.19	81.44	84.66	41.42
Yield an acre	60.8	42.6	31.4	43.7	40.1	37.2	23.9	29.2
Labor an acre								
Man hours	8.3	6.0	6.9	8.6	7.7	8.0	6.4	8.4
Horse hours	12.5	11.6	15.4	15.5	12.8	11.5	12.5	9.8
Tractor hours	--	.3	--	--	.36	.4	--	.6
COST ITEMS								
Growing costs								
Man labor	$ .30	.32	.43	.63	.53	.38	.34	.27
Horse labor	.51	.49	.65	.58	.72	.28	.57	.12
Tractor labor	--	.21	--	--	.18	.58	--	.61
Machinery	.07	.12	.12	.09	.17	.27	.08	.15
Seed	1.20	1.09	1.12	1.23	1.40	1.14	1.06	.98
Manure	.37	.88	.38	1.09	.58	.24	.84	.70
Gen'l farm expense	1.56	.71	.71	1.03	.83	1.70	.59	.88
Miscellaneous	--	--	--	--	--	.85	--	--
Total growing costs	$ 4.01	3.82	3.41	4.65	4.41	5.44	3.48	3.71
Harvesting costs								
Man labor	$ 2.12	1.36	1.57	1.80	1.75	2.33	1.47	2.15
Horse labor	1.15	1.31	1.21	.59	1.16	1.34	.97	1.16
Tractor labor	--	--	--	--	--	--	--	--
Twine	.44	.25	.26	.36	.34	.30	.34	.22
Threshing and fuel	1.95	.60	.85	1.36	1.21	.96	.60	.67
Machinery	.23	.23	.16	.89	.35	.27	.12	.42
Total harvesting	$ 5.89	3.75	4.05	5.00	4.81	5.20	3.50	4.62
Total growing and harvesting	$ 9.90	7.57	7.46	9.65	9.22	10.64	6.98	8.33
Taxes	$ 2.07	1.85	2.24	1.93	2.18	1.87	1.57	1.51
Interest on land	10.00	8.75	6.04	10.00	10.00	10.00	7.73	10.00
TOTAL COST	$21.97	18.17	15.74	21.58	21.40	22.51	16.28	19.84
INCOME								
Grain	$24.33	17.91	12.86	17.46	16.04	14.88	9.32	11.68
Straw	1.50	.79	.79	1.01	.77	1.04	1.04	1.01
Pasture	.22	.80	.17	--	.39	.35	.29	.22
TOTAL INCOME	$26.05	19.50	13.82	18.47	17.20	16.27	10.65	12.91
NET PROFIT AN ACRE	$ 4.08	1.33	-1.92	-3.11	-4.20	-6.24	-5.63	-6.93
NET COST A BUSHEL	$ .33	.39	.47	.47	.51	.57	.63	.64

OATS

Table 2. Costs of Production (acre basis) on 13 farms (890.66 acres, 25,750 bushels)
Champaign-Piatt Counties - 1927
(Farms ranked in order of net cost a bushel)

Farm number	11	25	10	13	30	1927 True Av. 13 farms	1926 True Av. 15 farms	1925 True Av. 15 farms
Acres in oats	149.33	39.74	43.4	146.43	20.87	68.5	58.8	53.4
Yield an acre	29.4	27.2	27.9	28.0	13.5	32.2	38.3	30.3
Labor an acre								
Man hours	3.7	7.7	6.1	6.3	8.0	6.5	7.2	5.6
Horse hours	2.8	17.1	7.3	8.0	11.2	10.2	11.6	10.4
Tractor hours	.8	--	1.06	1.3	2.25	.6	.5	.5
COST ITEMS								
Growing costs								
Man labor	$ .20	1.61	.34	.41	1.17	.43	.44	--
Horse labor	.08	.77	.47	.23	.89	.40	.59	--
Tractor labor	.36	--	.40	.61	.90	.31	.34	--
Machinery	.10	.14	.12	.14	.25	.14	.22	--
Seed	1.17	1.21	1.29	1.37	1.84	1.21	1.07	--
Manure	.62	1.31	.18	1.22	.47	.71	.59	--
Gen'l farm expense	.56	1.28	.67	1.39	.78	.95	1.28	--
Miscellaneous	.01	--	--	.25	--	.12	--	--
Total growing costs	$ 3.10	6.32	3.47	5.62	6.30	4.27	4.53	--
Harvesting costs								
Man labor	$ .91	.54	1.33	1.52	1.18	1.49	1.57	--
Horse labor	.36	1.05	.71	.95	.49	.94	.97	--
Tractor labor	.26	--	.52	.43	.28	.15	.18	--
Twine	.31	.26	.26	.32	.25	.30	.36	--
Threshing and fuel	.85	.82	.87	.88	.39	.88	1.04	--
Machinery	.22	.19	.25	.25	.19	.25	.26	--
Total harvesting	$ 2.91	2.86	3.94	4.35	2.78	4.01	4.38	--
Total growing and harvesting	$ 6.01	9.18	7.41	9.97	9.08	8.28	8.91	8.11
Taxes	$ 2.83	1.88	2.29	2.31	1.69	2.14	2.17	2.09
Interest on land	13.75	10.00	13.75	11.98	6.53	10.24	10.87	12.28
TOTAL COST	$22.59	21.06	23.45	24.26	17.30	20.66	21.95	22.48
INCOME								
Grain	$11.77	11.16	11.45	11.98	5.30	13.10	12.50	11.76
Straw	.63	.75	.88	.69	.96	.84	1.14	1.29
Pasture	1.13	--	.68	.01	--	.40	.88	1.44
TOTAL INCOME	$13.53	11.91	13.01	12.68	6.26	14.34	14.52	14.49
NET PROFIT AN ACRE	$-9.06	-9.15	-10.44	-11.58	-11.04	-6.32	-7.43	-7.99
NET COST A BUSHEL	$ .71	.75	.78	.84	1.21	.60	.52	.65

WHEAT

Table 3. Costs of Production (acre basis) on 11 farms (411.56 acres, 8,211 bushels)
Champaign-Piatt Counties - 1927
(Farms ranked in order of net cost a bushel)

Farm number	26	28	23	30	13	11	8
Acres in wheat	35.72	40.87	43.91	46.3	76.24	6.77	57.42
Yield an acre	20.2	17.6	25.9	16.33	23.0	27.3	19.1
Labor an acre							
Man hours	9.1	10.6	11.4	8.0	10.1	12.9	10.8
Horse hours	25.5	30.9	16.5	9.6	13.1	10.9	25.2
Tractor hours	--	--	1.2	2.05	.01	3.6	--
COST ITEMS							
Growing costs							
Man labor	$ 1.02	1.36	.87	.67	.80	1.28	1.05
Horse labor	1.89	2.93	.93	.46	.80	.77	1.88
Tractor labor	--	--	2.05	1.38	1.22	2.71	--
Machinery	.38	.45	.87	.66	.42	1.00	.44
Seed	1.65	1.50	1.88	1.81	2.02	1.73	1.92
Manure	.38	.84	.24	.47	1.15	.62	.37
Gen'l farm expense	.91	1.41	2.60	.90	2.05	1.98	2.04
Miscellaneous	--	.68	.10	.18	--	--	--
Total growing cost	$ 6.23	9.17	9.54	6.53	8.46	10.09	7.70
Harvesting costs							
Man labor	$ 1.59	1.63	2.74	1.64	2.27	2.47	2.01
Horse labor	1.18	1.04	1.50	.74	1.18	.71	1.09
Tractor labor	--	--	--	.27	.43	.58	--
Twine	.30	.33	.30	.34	.38	.27	.34
Threshing and fuel	1.26	.88	1.34	.93	1.36	1.67	.99
Machinery	.18	.12	.34	.19	.28	.35	.21
Total harvesting	$ 4.51	4.00	6.22	4.11	5.90	6.05	4.64
Cost of growing and harvesting	$10.74	13.17	15.76	10.64	14.36	16.14	12.34
Taxes on land	$ 2.24	1.68	1.87	1.68	2.18	2.72	2.20
Interest on land	7.50	8.00	10.00	6.54	11.00	13.93	8.87
TOTAL COST	$20.48	22.85	27.63	18.86	27.54	32.79	23.41
INCOME							
Grain	$23.88	20.72	30.57	20.73	29.89	33.34	23.28
Straw	.67	.49	.23	.91	.46	.44	.82
Pasture	---	4.01	.03	---	---	---	
TOTAL INCOME	$24.55	25.22	30.83	21.64	30.35	33.78	24.10
NET PROFIT AN ACRE	$ 4.07	2.37	3.20	2.78	2.81	.99	.69
NET COST A BUSHEL	$ .98	1.05	1.06	1.10	1.18	1.18	1.18

WHEAT (Continued)

Table 3. Costs of Production (acre basis) on 11 farms (411.56 acres, 8,211 bushels Champaign-Piatt Counties - 1927
(Farms ranked in order of net cost a bushel)

Farm number	25	29	15	22	1927 11 farms True Av.	1926 13 farms True Av.	1925 11 farms True Av.
Acres in wheat	23.82	50.2	19.96	10.38	37.4	29.9	36.3
Yield an acre	19.9	16.9	16.7	18.3	20.0	20.9	21.1
Labor an acre							
Man hours	9.9	9.3	6.8	17.8	10.0	11.6	9.3
Horse hours	28.7	27.6	7.4	33.4	20.5	22.4	20.1
Tractor hours	--	--	2.05	2.9	.9	.6	.4
COST ITEMS							
Growing costs							
Man labor	$ 1.37	1.12	.51	2.50	1.02	1.04	
Horse labor	2.39	2.39	.58	2.60	1.55	1.80	
Tractor labor	--		.67	2.97	.75	.89	
Machinery	.77	.67	.42	1.28	.58	.59	
Seed	2.71	1.48	1.94	2.11	1.85	2.44	
Manure	1.31	.88	.88	1.09	.72	.98	
Gen'l farm expense	1.75	1.09	1.78	2.18	1.67	1.98	
Miscellaneous	--	--	--	--	.10	--	
Total growing cost	$10.30	7.63	6.78	14.73	8.24	9.72	
Harvesting costs							
Man labor	$ 1.32	1.47	1.51	2.37	1.91	2.11	
Horse labor	.94	1.43	.48	.79	1.10	1.21	
Tractor labor	--	--	.77	--	.16	.34	
Twine	.26	.32	.30	.21	.33	.32	
Threshing and fuel	1.14	.54	.83	1.19	1.06	1.23	
Machinery	1.03	.19	.21	.67	.28	.27	
Total harvesting cost	$ 4.69	3.95	4.10	5.23	4.84	5.48	
Cost of growing and harvesting	$14.99	11.58	10.88	19.96	13.08	15.20	11.88
Taxes on land	$ 1.88	1.85	2.58	1.94	2.01	2.25	1.86
Interest on land	10.00	8.74	12.50	10.00	9.26	11.35	11.59
TOTAL COST	$26.87	22.17	25.96	31.90	24.35	28.80	25.33
INCOME							
Grain	$25.27	21.27	20.85	22.51	24.69	26.35	26.99
Straw	.63	.12	.50	.77	.54	.53	.90
Pasture	.63	.04		2.53	.51	1.19	.66
TOTAL INCOME	$26.53	21.43	21.35	25.81	25.74	28.07	28.55
NET PROFIT AN ACRE	$ -.34	-.74	-4.61	-6.09	1.39	-.73	3.22
NET COST A BUSHEL	$ 1.29	1.31	1.53	1.56	1.17	1.30	1.12

SOYBEANS (Threshed)

Table 4. Costs of Production (acre basis) of Soybeans Threshed on 7 Farms
(156.56 acres, 2,408.8 bushels)
Champaign-Piatt Counties - 1927
(Farms ranked in order of net cost a bushel)

Farm number	15	26	24	29	11	13	22	1927 7 farms True Av.	1926 7 farms True Av.
Acres in soybeans	19.79	33.37	20.5	24.0	13.58	28.56	16.76	22.36	21.7
Yield per acre	28.8	17.3	13.8	12.8	13.0	12.0	9.1	15.4	13.5
LABOR AN ACRE									
Man hours	11.40	9.2	11.0	7.7	11.5	12.3	15.6	10.9	10.4
Horse hours	13.74	32.4	20.7	19.0	20.8	12.4	43.0	22.9	25.5
Tractor hours	3.7	---	1.4	1.9	1.1	4.0	---	1.8	1.0
COST ITEMS									
Growing costs									
Man labor	$ 1.26	1.96	2.30	1.30	1.31	1.37	2.71	1.73	1.50
Horse labor	1.02	3.05	2.08	1.46	2.20	.65	2.22	1.82	2.14
Tractor labor	1.50	----	1.49	1.42	.85	2.58	----	1.15	.86
Machinery	.69	.61	1.10	.73	.59	.59	1.03	.74	.68
Seed	3.20	2.94	.88	2.21	2.95	2.51	4.70	2.70	3.04
Manure	.44	.19	.35	.44	.31	.58	.55	.40	.35
Gen'l farm expense	3.01	.95	1.17	1.06	1.72	2.71	1.88	1.74	1.61
Miscellaneous	---	---	---	---	.08	---	---	.01	.01
Total growing cost	$11.12	9.70	9.37	8.62	10.01	10.99	13.09	10.29	10.19
Harvesting cost									
Man labor	$ 2.25	.70	.90	.86	2.12	2.41	1.69	1.49	1.30
Horse labor	.82	.87	.61	1.50	1.09	1.17	1.04	1.02	.97
Tractor labor	1.05	---	---	---	---	.55	---	.23	.05
Twine	.28	.25	.19	.38	---	.32	---	.23	.27
Threshing and fuel	2.88	1.99	.29	1.42	1.53	1.54	1.49	1.61	1.95
Machine	.33	.28	.51	.35	.13	.28	.10	.30	.31
Total harvesting	$ 7.61	4.09	2.50	4.51	4.87	6.27	4.32	4.88	4.85
Cost of growing and harvesting	$18.73	13.79	11.87	13.13	14.88	17.26	17.41	15.17	15.04
Taxes on land	$ 2.58	2.24	1.54	1.85	2.77	2.18	1.93	2.14	2.01
Interest on land	12.50	7.50	10.00	8.75	13.75	13.00	10.00	10.46	9.58
TOTAL COST	$33.81	23.53	23.41	23.73	31.40	32.44	29.34	27.77	26.63
INCOME									
Grain	$38.88	18.15	13.84	22.31	13.00	12.00	9.13	18.31	17.56
Straw	2.02	1.80	.78	1.66	.89	2.37	---	1.50	1.68
Pasture	1.00	.83	.22	---	---	---	---	.33	.03
TOTAL INCOME	$41.90	20.78	14.84	23.97	13.89	14.37	9.13	20.14	19.27
NET PROFIT AN ACRE	$ 8.09	-2.75	-8.57	.24	-17.51	-18.07	-20.21	- 7.63	-7.36
NET COST A BUSHEL	$ 1.07	1.21	1.62	1.73	2.35	2.50	3.22	1.69	1.84

Winter Wheat

Winter wheat was produced on only 11 of the 15 farms as compared with 13 of the 15 farms in 1926. The total acreage was greater, however, being 411.56, while only 388.56 acres were raised on the 13 farms in 1926. The average yield was practically the same for the two years, but the cost a bushel was only $1.17 in 1927 as compared with $1.30 in 1926. The costs of both growing and harvesting were lower in 1927.

The net return averaged $1.39 profit with a variation from a loss of $6.09 to a profit of $4.07 an acre.

Spring Wheat

Spring wheat was raised on only two fields on two farms with a total of 38 acres. These two fields were emergency crops to make the best of adverse weather conditions in the spring. The cost was $21.11 an acre. Thus it was practically the same as oats, which has about the same requirements for labor and power. The yield was low--12.2 bushels an acre, and as a result the cost of producing a bushel was high, $1.67, and the enterprise gave a loss of $5.84 an acre. This does not necessarily mean that spring wheat is a low profit crop. More information will be necessary to establish its relative profitableness for this particular section. The question might be raised as to whether the farm would have suffered a greater or less loss by using some other crop to fill the same place in the rotation.

Soybeans (Threshed)

The production of soybeans for seed or grain was quite similar to 1926. The number of farms growing soybeans was the same; the average acreage for each farm was only .6 of an acre larger in 1927; the growing cost $.10 more; harvesting cost $.03 more; and the total cost was $1.14 an acre higher. The 1927 yield was 1.9 bushels larger which reduced the cost a bushel from $1.84 in 1926 to $1.69 in 1927. However, a slightly lower value for beans makes the net loss a little larger in 1927.

Soybeans are not as yet one of the major crops on these farms. They are a relatively new crop and have been used more as an emergency crop which costs more to produce than a well established crop or a major crop regularly planned for. If soybeans should be made a major crop, its costs of production might be lower than these figures indicate. The effect upon the other crops and the farm organization would have to be given serious consideration if they were introduced sufficiently to change the proportion of crops to any great extent upon any given farm. The average costs have been quite consistent from year to year.

CLOVER AND MIXED HAY

Table 5.-Costs of Production per acre on 10 Farms (150.68 acres - 256.34 tons)
Champaign-Piatt Counties, 1927
(Farms ranked in order of net cost a ton)

Number of farm	26	24	13[1]	22[1]	28	22
Acres in hay	2.62	4.24	10.57	3.85	19.09	6.27
Yield an acre	4.6	3.85	2.74	3.12	1.41	1.91
Labor an acre						
Man hours	31.3	21.2	11.7	25.2	3.8	16.6
Horse hours	26.7	22.9	13.0	15.1	3.9	18.5
Tractor hours	-	-	-	-	-	-
COST ITEMS						
Man labor	$ 9.08	6.15	3.58	7.12	1.09	4.69
Horse labor	3.22	2.98	1.90	1.14	.48	1.40
Tractor labor	-	-	-	-	-	-
Seed	1.29	1.61	4.02	2.15	-	2.15
Machinery	1.26	2.06	.82	.27	.88	.48
General farm expense	3.23	2.24	2.56	3.04	.37	2.00
Manure	.19	.36	1.73	2.39	1.43	.55
OPERATING COST	$18.27	15.40	14.61	16.11	4.25	11.27
Taxes on land	$ 2.24	1.54	2.18	1.94	1.69	1.93
Interest on land	7.50	10.00	11.51	10.00	8.00	10.00
TOTAL COST	$28.01	26.94	28.30	28.05	13.94	23.20
INCOME						
Hay	$39.12	35.55	17.12	15.58	11.31	9.57
Pasture	-	-	3.89	.16	-	-
Seed	-	-	-	-	-	3.99
TOTAL INCOME	$39.12	35.55	21.01	15.74	11.31	13.56
NET PROFIT AN ACRE	$11.11	8.61	-7.29	-12.31	-2.63	-9.64
NET COST A TON	$ 6.12	6.99	8.91	8.95	9.88	10.04

[1]Second crop cut for seed. All other farms cut two crops for hay.

CLOVER AND MIXED HAY (Continued)

Table 5.-Costs of Production per Acre on 10 Farms (150.68 acres - 256.34 tons)
Champaign-Piatt Counties, 1927
(Farms ranked in order of net cost a ton)

Farm number	15	25	27	11[1]	1927 10 farms True average
Acres in hay	13.21	17.21	5.71	67.91	150.68
Yield an acre	2.27	1.45	1.58	1.23	1.7
LABOR AN ACRE					
Man hours	15.3	6.0	10.3	10.1	10.8
Horse hours	22.9	9.2	10.3	7.9	10.7
Tractor hours	.6	-	-	-	.05
COST ITEMS					
Man labor	$ 4.71	1.56	3.06	3.03	3.17
Horse labor	3.06	.83	1.52	1.26	1.41
Tractor labor	.41	-	-	-	.04
Seed	1.30	1.41	1.83	.92	1.25
Machinery	.94	.22	1.34	.38	.60
General farm expense	4.03	.94	1.13	1.52	1.70
Manure	.44	.65	.29	.31	.66
OPERATING COST	$14.89	5.61	9.17	7.42	8.83
Taxes on land	$ 2.58	1.88	2.18	2.84	2.39
Interest on land	12.50	10.00	10.00	13.75	11.72
TOTAL COST	$29.97	17.49	21.35	24.01	22.94
INCOME					
Hay	$17.25	11.62	13.22	9.89	12.91
Pasture	.46	1.00	-	.11	.48
Seed	5.45	-	-	-	.65
TOTAL INCOME	$23.16	12.62	13.22	10.00	14.04
NET PROFIT AN ACRE	$-6.81	- 4.87	- 8.13	-14.01	- 8.90
NET COST A TON	$10.60	11.35	13.54	19.41	12.82

[1]Only one crop cut.

Table 6.-MISCELLANEOUS HAY CROPS

Farm number	Soybean Hay				Alfalfa	Timothy		
	30	23	29	8	24	23	18	22
Acres of hay	13.84	6.84	7.31	12.31	4.43	1.08	3.21	3.3
Yield an acre (tons)	2.2	1.7	1.4	.97	2.39	1.58	1.25	.6
LABOR AN ACRE								
Man hours	15.1	9.9	12.9	9.2	16.5	8.3	10.9	5.8
Horse hours	14.5	14.6	18.2	30.0	20.8	16.7	21.8	5.5
Tractor hours	2.0	1.4	1.9	-		-	-	-
COST ITEMS								
Growing costs								
Man labor	$ 1.07	1.19	1.30	1.61	-	-	-	-
Horse labor	.68	1.05	1.46	3.02	-	-	-	-
Tractor labor	1.02	2.05	1.41	-	-	-	-	-
Machinery	.31	.98	.73	.58	-	-	-	-
Seed	2.78	2.63	3.67	3.47	1.63	-	-	-
Manure	.23	.12	.44	.19	.35	-	.50	.55
General farm expense	1.48	2.11	1.06	1.73	1.74	1.77	2.42	.69
Total growing costs	$ 7.57	10.13	10.07	10.60	3.72	1.77	2.92	1.24
Harvesting costs								
Man labor	$ 3.35	2.17	2.31	1.08	4.78	2.83	2.80	1.63
Horse labor	1.11	1.01	1.47	.96	2.70	2.35	3.26	.41
Machinery	.39	.63	3.39	.66	1.87	3.00	2.08	.14
Total harvesting cost	$ 4.85	3.81	7.17	2.70	9.35	8.18	8.14	2.18
Total growing and harvesting	$12.42	13.94	17.24	13.30	13.07	9.95	11.06	3.42
Taxes on land	$ 1.69	1.86	1.85	2.07	1.54	1.87	1.80	1.94
Interest on land	8.00	10.00	8.75	10.00	10.00	10.00	10.00	10.00
TOTAL COST	$22.11	25.80	27.84	25.37	24.61	21.82	22.86	15.36
INCOME								
Hay	$17.34	16.78	12.31	7.80	28.65	7.92	14.95	10.91
Pasture	-	-	-	-	-	2.03	-	1.09
TOTAL INCOME	$17.34	16.78	12.31	7.80	28.65	9.95	14.95	12.00
NET PROFIT AN ACRE	$-4.77	-9.02	-15.53	-17.57	4.04	-11.87	-7.91	-3.36
NET COST A TON	$10.20	15.31	20.35	26.03	10.31	12.50	18.35	23.54

MISCELLANEOUS CROPS

Table 7. Costs of Production per Acre on Miscellaneous Crops Grown on Some Champaign and Piatt County Farms, 1927.

	Spring Wheat		Hulless Oats	Barley	Timothy Seed	
Farm number	27	30	15	10	22	30
Acres	20.68	17.33	26.65	20.48	3.57	4.6
Yield an acre	17.8	5.5	21.6 (48 lbs)	20.8	3.7	7.0
LABOR AN ACRE						
Man hours	8.9	8.0	7.3	5.5	7.8	4.2
Horse hours	12.5	7.2	11.4	6.0	12.9	11.0
Tractor hours	.7	1.85	2.1	.9	--	.43
COST ITEMS						
Growing costs						
Man labor	$ .49	.49	.94	.32	--	--
Horse labor	.50	.08	1.08	.46	--	--
Tractor labor	.33	.70	.68	.34	--	--
Machinery	.19	.12	.27	.11	--	--
Seed	2.67	2.60	2.00	2.44	--	--
Manure	.53	.47	.88	.18	.55	.24
General farm expense	.98	.78	1.93	.60	.95	.82
Miscellaneous	--	--	--	--	--	--
Total growing cost	$ 5.69	5.24	7.78	4.45	1.50	1.06
Harvesting costs						
Man labor	$ 2.15	1.85	1.31	1.20	2.21	2.44
Horse labor	1.33	.80	.44	.50	.97	1.35
Tractor labor	--	.27	.67	.46	--	.22
Twine	.32	.28	.28	.19	.16	.29
Threshing and fuel	1.07	.37	.54	1.14	1.19	1.91
Machinery	.33	.19	.32	.23	.87	.16
Total harvesting	$ 5.20	3.76	3.56	3.72	5.40	6.37
Cost of growing and harvesting	$10.89	9.00	11.34	8.17	6.90	7.43
Taxes on land	$ 2.20	1.69	2.58	2.29	1.94	1.69
Interest on land	10.07	8.00	12.50	13.75	10.00	8.00
TOTAL COST	$23.16	18.69	26.42	24.21	18.84	17.12
INCOME						
Grain	$20.79	6.96	21.53	14.13	7.49	14.11
Straw	.82	.75	.90	.39	10.08	6.95
Pasture			.18	--	1.68	2.61
TOTAL INCOME	$21.61	7.71	22.61	14.52	19.25	23.67
NET PROFIT AN ACRE	$-1.55	-10.98	-3.81	-9.69	.41	6.55
NET COST A BUSHEL	$ 1.26	3.27	1.18	1.15	1.91	1.07

Clover and Mixed Hay

The year 1927 was one for good hay yields. Seedings came through the winter in good shape and the damp, cool spring and summer were responsible for a rank growth which produced large yields but the quality was poor because of the heavy growth and poor weather conditions. In spite of the favorable conditions for hay the percentage of the total crop area in hay was small. Even when combined with sweet clover it makes up only 6.2 percent of the crop land. At this rate, land would be sown to clover only once in 16 years.

The average return was a loss. The low price of hay at harvesting time, which was used in giving the fields credit for the hay produced, was responsible for the low net income.

Clover hay is not a major crop in East Central Illinois. Very little is sold from the farm and this is usually to a neighbor. Its contribution to the farm income is indirectly by being fed to cattle or by the effect it has on increasing the yields of the other crops of the rotation. The clover production account shows a loss on all but two farms. The average for all 10 farms was a loss. Even in years of better hay prices it shows little or no profit. However, the value of its effect upon other crops is not credited to the clover. Experiment station information and the experience of farmers generally is that the value to other crops is sufficient to have it included in the corn belt rotation unless some other legume can be produced which will have a better effect upon other crops or produce more hay or feed, or both. The best interpretation of this account, then, is not to eliminate the enterprise unless some other crop can fill the place in the cropping system at a greater net profit, but to attempt to increase the profits by improvements in production.

Miscellaneous Crops
Spring Wheat, Hulless Oats, Barley, Timothy

The figures on these crops are not presented as standard costs but merely as a record of what happened on farms where their production was attempted.

Miscellaneous Hay Crops
Soybeans, Alfalfa, and Timothy

Although the acreages of these crops are small, which prevents the use of averages for standards, there is even less variation in the acre costs than on some of the more standard crops. There also seems to be a similarity of acre costs with those of the same crops for previous years. This would indicate that the costs are probably representative. The low price of hay during the summer of 1927 accounts for the low income and the net losses.

Cattle

On the 14 farms that kept milk cattle there was an average of 7.8 animal units (mature cattle or their equivalent in young stock) and of these 4.4 were milk cows. Most of the cows were grades or cross breds with the beef breeds predominating. Milk production is not a major enterprise on any of these farms. The cows are kept to furnish milk for family use and to provide a minor source of income from the sale of cream, butter, and veal. Three of the farms sold some whole milk during the year and two others fed out their calves as long yearlings. One farm bought feeders and finished them for the market, but this has been considered a separate enterprise and not included with the milk cattle costs.

The net profit for each animal unit averaged $11.77. For the two previous years this account showed a loss. The increase in income was due to an increase in the price of beef cattle and also to a reduction in the feed costs. The increase in the average production of milk also helped. The lower feed cost was due to more abundant pastures and cheaper roughage which items make up most of the feed for this class of cattle. Grain prices were higher but this did not affect the feed cost as much as did the lower prices of hay and straw and the better pastures.

The variation in net return for each animal in the milking herd was from a profit of $57.93 to a loss of $29.50. This demonstrates that a minor enterprise may have considerable influence on the net farm income.

The milk cattle enterprise as conducted on the average grain farm may be considered more as a by-product to grain production than as a special production. It makes use of pastures and roughage which might not find as suitable a market as through cattle. It also provides productive employment for labor, particularly during the winter months. The fact that the milk cattle have almost always shown a loss until 1927 when hay, straw, and beef prices were more favorable, does not necessarily mean that there is no place for this enterprise on grain farms. The wide variations in the net return on different farms indicate that it is not given the same attention as are the major enterprises. With the narrow margin of profit in farming it is necessary to make each enterprise contribute its share to the farm income.

MILK CATTLE COSTS

Table 8. Cost Items and Income (animal unit basis) for Milk Cattle on 14 farms - Champaign-Piatt Counties, 1926
(Farms ranked in order of net profit for each animal unit)

Farm number	27	11	25	22	24	28	8	29
COST ITEMS an Animal Unit								
Feed	$ 73.63	57.24	61.31	50.19	48.28	57.24	36.18	50.75
Man labor	28.48	14.47	23.54	26.77	26.31	16.27	5.01	25.55
Horse labor	-	.07	.06	.29	.08	.11	-	-
Int. on av. investment	4.19	3.34	3.40	4.00	3.12	3.07	3.08	3.47
Bldg. and equip. expense	4.34	.74	6.26	2.18	2.39	2.23	1.06	3.33
General farm expense	10.49	7.26	14.04	11.42	9.59	5.29	3.22	10.80
Miscellaneous	2.08	.52	1.86	1.69	1.00	.30	.64	2.97
TOTAL COST	$123.21	83.64	110.47	96.54	90.77	84.51	49.19	96.87
INCOME an animal unit								
Milk	$156.47	104.87	128.27	112.15	77.34	68.00	11.31	77.89
Manure	4.64	5.51	12.19	12.40	4.80	8.42	.98	5.14
Increase	20.03	23.98	20.67	14.46	30.41	21.87	47.07	18.44
TOTAL INCOME	$181.14	134.36	161.13	139.01	112.55	98.29	59.36	101.47
NET PROFIT an animal unit	$ 57.93	50.72	50.66	42.47	21.78	13.78	10.17	4.60
FEED an animal unit (lbs.)								
Farm grains	2,726	2,195	1,502	1,057	376	1,788	723	1,131
Mill feeds	-	-	-	65	-	-	-	-
Hay	2,480	435	2,105	978	2,117	1,209	538	1,118
Silage	-				-			2,816
Straw	1,800	1,683	947	652	138	318	538	983
Skim milk	37	1,261	57	992	-	170	-	476
Pasture days	223	208	277	252	263	304	242	179
LABOR an animal unit								
Man hours	96	48.4	84.1	94.7	90.7	57.2	17.2	90.9
Horse hours	-	.4	.6	.4	.6	.9	-	-
MILK PRODUCED a dairy cow (lbs.)	8,693	6,126	6,372	5,211	4,123	4,868	4,903	4,543
Number of animal units	5	9.2	4.75	4.6	8.0	11.0	19.5	9.66
Number of dairy cows	4	7.0	4.25	4.4	6.66	6.83	2.0	7.36

Table 8.-Cost Items and Income (animal unit basis) for Milk Cattle on 14 farms - Champaign-Piatt Counties, 1926
(Farms ranked in order of net profit for each animal unit)

Farm number	15	18	30	13	26	10	1927 14 farms True av.	1926 12 farms True av.	1925 13 farms True av.
COST ITEMS an animal unit									
Feed	$ 48.58	34.53	72.03	61.56	49.69	46.13	52.76	57.77	63.37
Man labor	32.64	9.28	23.05	25.62	32.81	30.01	20.01	28.03	20.10
Horse labor	.15	.02	.34	.25	-	.10	.09	.25	.27
Interest on average investment	4.07	2.75	3.59	4.66	3.20	3.38	3.50	4.05	3.15
Buildings and equipment expense	4.68	2.19	3.05	.36	7.15	.90	2.68	3.31	2.81
General farm expense	27.99	7.99	7.70	18.37	11.68	12.05	9.67	16.04	12.14
Miscellaneous	3.36	1.12	1.53	.18	1.96	.85	1.33	1.05	.97
TOTAL COST	$121.47	57.88	111.29	111.00	106.49	93.42	90.04	110.50	102.81
INCOME an animal unit									
Milk	77.53	13.34	83.49	76.35	65.64	38.91	67.99	80.26	67.10
Manure	10.20	9.45	3.68	11.00	6.94	2.64	6.40	5.46	5.53
Increase	32.60	32.52	21.54	3.70	6.68	22.37	27.42	19.78	22.40
TOTAL INCOME	$120.33	55.31	108.71	91.05	79.26	63.92	101.81	105.50	95.03
NET PROFIT an animal unit	$ -1.14	-2.57	-2.58	-19.95	-27.23	-29.50	11.77	-5.00	-7.78
FEED an animal unit (lbs.)									
Farm grains	1,699	1,072	2,814	1,663	1,286	1,084	1,480	1,542	1,424
Mill feeds	-	-	-	-	-	-	3	79	27
Hay	857	-	1,931	479	1,232	524	1,062	1,483	539
Silage	7,969	-	-	1,277	-	-	632	67	1,658
Straw	-	300	904	1,506	566	2,159	818	154	134
Skim milk	1,048	30	247	174	-	25	287	462	356
Pasture days	227	231	197	325	272	283	254	256	244
LABOR an animal unit									
Man hours	106.1	36.1	78.6	83.7	113.1	109.2	69.6	101.4	76.7
Horse hours	1.1	.15	2.8	1.7	-	.63	.8	1.7	1.9
MILK PRODUCED a dairy cow (lbs.)	7,839	1,976	5,281	5,316	4,558	2,602	5,339	5,116	4,324
Number of animal units	4.55	13.33	9.25	4.7	6.25	4.77	7.84	6.2	9.53
Number of dairy cows	2.0	4.0	6.5	3.0	4.0	3.17	4.44	4.3	6.58

PORK

Table 9.-Costs of Production for 100 Pounds Pork on 15 Farms (122,178 lbs. pork)
Champaign-Piatt Counties - 1927
(Farms ranked in order of total cost of producing 100 pounds)

Farm number	28	29	24	25	11	8	13	15	30
COST ITEMS									
Feed	$ 5.09	5.71	5.59	4.80	4.92	7.41	6.11	7.23	6.06
Man labor	.86	.40	.98	1.18	1.42	.29	.81	.68	1.89
Horse labor	.04	.02	.06	.07	.12	.05	.05	.03	.17
Int. on investment @ 5 percent	.28	.32	.28	.11	.37	.56	.22	.26	.41
Bldg. & equip. exp.	.06	.23	.31	.62	.30	.11	.96	.08	.50
Gen'l farm expense	.28	.17	.36	.71	.72	.19	.58	.58	.63
Veterinary and medicine	.25	.16	-	.15	-	.16	-	.44	.19
Miscellaneous	.15	.17	.12	.10	.06	.20	.40	.08	.28
TOTAL COST	$ 7.01	7.18	7.70	7.74	7.91	8.97	9.13	9.38	10.13
INCOME									
Increase	$ 6.59	6.97	5.77	7.16	-2.39	6.73	5.89	7.58	5.12
Used in household	1.43	.06	1.85	.67	9.83	1.24	3.11	.17	1.46
Manure	-	.45	-	-	-	.48	-	.12	-
TOTAL INCOME	$ 8.02	7.48	7.62	7.83	7.44	8.45	9.00	7.87	6.58
PROFIT PER 100 lbs.	$ 1.01	.30	-.08	.09	-.47	-.52	-.13	-1.51	-3.55
Amt. of feed (lbs.)									
Corn equivalent	358.9	494.1	360.0	408.0	298.0	551.0	203.0	395.3	453.4
Corn	356.0	420.0	360.0	408.0	298.0	551.0	203.0	341.0	431.0
Oats	3.0	45.0	-	-	-	-	-	63.0	26.0
Other grains	-	35.0	-	-	-	-	-	-	-
Tankage equivalent	13.7	3.8	31.9	-	32.1	17.9	-	54.3	2.1
Soybeans	-	-	9.2	-	7.0	--	-	60.4	-
Tankage	-	-	-	-	-	7.4	-	2.5	-
Skim milk	165.0	43.6	294.0	-	326.7	28.8	-	3.8	5.4
Other proteins	-	-	-	-	-	11.3	-	3.5	2.3
Mill feeds	-	.45	-	-	-	-	-	-	-
Minerals	-	1.8	-	-	-	-	4.0	3.2	-
Straw	-	-	-	-	-	4.9	-	56.0	-
Roughage	-	23.0	-	-	-	-	-	-	31.0
Pasture days	.82	1.6	1.6	2.7	.1	3.04	-	1.8	1.74
Labor									
Man hours	3.0	1.4	3.4	4.2	4.8	1.0	2.6	2.2	6.5
Horse hours	.3	.1	.5	.64	.8	.4	.4	.2	1.3
Total pounds pork produced	11,025	22,445	6,595	2,955	2,130	10,181	2,513	33,945	4,425
Sold	-	6,918	3,840	2,310	1,150	21,426	4,218	34,255	4,340
Used	1,575	137	1,015	225	2,055	1,115	716	490	675

PORK (Continued)

Table 9.-Costs of Production per 100 Pounds Pork on 15 Farms (122,178 lbs. pork)
Champaign-Piatt Counties - 1927
(Farms ranked in order of total cost of producing 100 pounds)

Farm number	18	26	10	23	22	27	1927 15 farms True av.	1926 15 farms True av.	1925 16 farms True av.
COST ITEMS									
Feed	$ 7.24	6.74	8.91	7.79	7.62	9.51	6.60	5.50	8.95
Man labor	1.13	1.54	1.10	2.10	2.23	3.42	.86	.77	.65
Horse labor	.09	.21	.01	.19	.03	.15	.06	.04	.06
Int. on investment @ 5 percent	.37	.45	.55	.38	.32	.57	.34	.31	.24
Bldg. & equip. exp.	.48	.72	.13	.39	1.18	.53	.27	.25	.20
Gen'l farm expense	.98	.55	.44	1.32	.95	1.26	.49	.52	.43
Veterinary and medicine	.33	.23	.24	.35	-	.46	.25	.23	.14
Miscellaneous	.06	.30	.03	.04	.25	.75	.14	.04	.02
TOTAL COST	$10.68	10.74	11.41	12.56	12.59	16.65	9.01	7.66	10.69
INCOME									
Increase	$ 8.06	5.54	6.64	7.59	6.15	-1.76	6.71	10.52	11.60
Used in household	1.05	2.77	1.89	-	.90	9.63	1.08	1.22	.84
Manure	-	-	-	-	-	-	.16	.17	.08
TOTAL INCOME	$ 9.11	8.31	8.53	7.59	7.05	7.87	7.95	11.91	12.52
PROFIT PER 100 lbs.	$-1.57	-2.43	-2.88	-4.97	-5.54	-8.78	-1.06	4.25	1.83
Amt. of feed (lbs.)									
Corn equivalent	540.4	548.7	688.4	635.8	438.2	763.0	456.8	429.0	431.8
Corn	538.0	522.0	511.0	626.0	437.0	763.0	418.1	414.0	411.7
Oats	3.2	31.0	205.8	10.7	1.6	-	37.4	11.7	20.8
Other grains	-	-	-	-	-	-	6.5	4.7	2.2
Tankage equivalent	15.8	9.1	3.0	8.7	55.8	12.9	23.9	22.0	33.3
Soybeans	12.0	1.0	-	-	3.0	-	18.5	16.1	22.6
Tankage	-	-	-	-	-	-	1.3	4.4	8.8
Skim milk	37.0	100.0	36.4	105.4	642.0	34.7	70.0	47.7	57.2
Other proteins	4.0	-	-	-	-	19.0	2.6	.6	1.2
Mill feeds	-	-	-	-	-	-	.1	.15	1.1
Minerals	2.5	2.4	-	-	-	-	1.7	2.7	1.9
Straw	-	11.3	17.8	-	-	-	17.0	16.5	-
Roughage	-	-	-	-	-	-	5.4	.2	5.6
Pasture days	1.8	1.2	1.9	2.4	3.0	-	1.7	3.5	13.0
Labor									
Man hours	4.4	5.3	4.0	6.2	7.9	11.5	3.0	2.8	2.5
Horse hours	.6	1.7	.06	1.3	.4	1.0	.4	.33	.4
Total pounds pork produced	9,994	6,200	5,070	1,790	2,000	910	8,145	8,733	12,596
Sold	7,794	340	1,050	3,090	-	600	6,089	-	-
Used	1,000	1,605	800	-	200	730	823	-	-

POULTRY (TOTAL FLOCK)

Table 10.-Costs of Production for Entire Flock on Each of 14 Farms - Champaign-Piatt Counties, 1927
(Farms ranked in order of total net profit from the poultry enterprise)

Farm number	24	15	28	22	29	18	25	27	30
COST ITEMS									
Feed	$ 77.42	352.20	34.60	136.40	31.94	41.02	55.81	86.46	414.78
Man labor	79.54	93.61	44.89	67.58	29.64	84.20	51.54	118.43	207.43
Horse labor	-	1.59	-	1.51	-	-	1.17	.59	6.05
Int. on average investment	10.15	11.08	6.81	11.05	5.95	10.63	4.36	8.20	12.75
Bldgs. and equip. expense	16.53	35.08	5.06	45.85	9.56	9.32	7.78	26.09	58.28
General farm expense	29.00	80.27	14.58	28.84	12.52	72.55	30.74	43.61	69.33
Miscellaneous	1.13	15.65	3.68	-	.80	-	3.30	1.00	8.50
TOTAL COST	$213.77	589.48	109.62	291.23	90.41	217.72	154.70	284.38	777.12
INCOME									
Eggs sold	$146.21	368.57	45.66	176.48	68.58	40.45	34.30	92.94	178.41
Eggs used	44.55	50.75	58.80	41.70	61.05	99.55	47.10	57.30	70.90
Increase	146.40	252.01	80.21	126.43	6.65	112.10	93.54	126.13	481.40
TOTAL INCOME	$337.16	671.33	184.67	344.61	136.28	252.10	174.94	276.37	730.71
NET PROFIT	$123.39	81.85	75.05	53.38	45.87	34.38	20.24	- 8.01	-46.41
FEED (pounds)									
Farm grains	4,056	15,819	2,814	7,356	2,506	3,044	3,946	5,300	16,224
Purchased concentrates	300	3,522	-	1,925	-	-	176	421	5,434
Skim milk	3,635	3,870	704	248	791	666	-	85	357
LABOR USED									
Man hours	274.3	304.3	157.8	239	105.5	327.5	184	400	707
Horse hours	-	12	-	20	-	-	11	4	49
Number of eggs produced	10,556	19,408	6,530	9,431	5,731	6,336	4,175	6,979	12,825
Number of eggs used in household	1,579	2,032	2,360	1,668	2,443	3,982	7,885	1,616	3,244
Number of eggs sold	8,479	15,616	3,930	7,628	3,288	2,004	1,753	4,898	7,822
Net return on 100 hen basis	$ 63.28	41.42	62.54	55.60	45.87	21.49	25.30	- 6.68	- 33.15
Number of hens in flock	195	200	120	96	100	160	80	120	140

POULTRY (TOTAL FLOCK) Continued

Table 10.-Costs of Production for Entire Flock on Each of 14 Farms - Champaign-Piatt Counties, 1927
(Farms ranked in order of total net profit from the poultry enterprise)

Farm number	11	10	8	26	13	1927 14 flocks True av.	1926 14 flocks True av.	1925 15 flocks True av.
COST ITEMS								
Feed	$290.43	137.40	140.60	105.24	256.23	154.32	117.07	151.89
Man labor	116.74	61.13	47.51	107.01	96.78	86.15	87.48	72.47
Horse labor	2.37	.64	-	.48	1.18	1.11	.78	.76
Int. on av. investment	8.87	9.77	4.53	6.28	8.26	8.48	7.66	7.71
Bldgs. and equip. exp.	77.91	19.26	5.01	36.57	28.75	27.22	34.26	33.17
General farm expense	58.59	24.55	30.65	38.10	69.40	43.05	51.44	46.33
Miscellaneous	34.70	39.44	.35	17.11	1.25	9.06	8.74	2.46
TOTAL COST	$589.61	292.19	228.65	310.79	461.85	329.39	307.43	314.79
INCOME								
Eggs sold	$105.77	62.60	16.17	49.75	168.55	111.03	153.06	124.81
Eggs used	75.60	119.70	44.70	54.40	36.60	61.62	57.20	58.68
Increase	356.76	54.86	64.92	45.64	- .07	139.07	178.04	137.29
TOTAL INCOME	$538.13	237.16	125.79	149.79	205.08	311.72	388.30	320.78
NET PROFIT	$ 51.48	-55.03	-102.86	-161.00	-256.77	-17.67	80.87	5.99
FEED (pounds)								
Farm grains	11,943	4,436	7,074	5,875	15,248	7,524	6,300	6,641
Purchased concentrates	1,701	800	100	550	970	1,136	1,022	796
Skim milk	7,992	2,199	3,454	5,494	2,222	2,265	3,919	4,402
LABOR USED								
Man hours	390.5	222.5	162.8	369	316.3	297.2	316.6	281.9
Horse hours	15	4	-	4	8	9	6.6	6.1
Number of eggs produced	9,107	9,969	5,360	4,749	13,330	8,892	8,674	7,338
Number of eggs used in household	3,136	1,187	1,786	2,176	1,465	2,183	2,057	2,054
Number of eggs sold	6,404	7,734	3,318	2,082	9,703	6,047	3,806	4,735
Net return on 100 hen basis	$-46.80	-37.44	-137.15	-133.06	-233.43	-13.91	70.32	4.77
Number of hens in flock	110	147	75	121	110	127	115	125.6

Pork

A total of 122,178 pounds of pork were produced on the 15 farms; more than half of this was produced on three farms. On the other farms hogs were strictly a minor enterprise and even on the three high producing farms not enough hogs were raised to use all of the corn produced.

The average net return was a loss of $1.06 on each 100 lbs. produced. The decided drop in the price of hogs and an increase in the price of corn accounts for this. The cost for each 100 lbs. produced was $9.01 and the income was $7.95. The average income for each 100 lbs. is less than the average price received which is accounted for by the loss in inventory value of hogs on hand at the end of the year. The value at the beginning of the year was $11.00 and at the end, $8.00 a hundred lbs. This loss of $3.00 a hundred must be borne by the income received during the year.

The differences in production efficiency are demonstrated by the differences in total cost for each 100 lbs. Feed and labor are responsible for most of these differences. All farms but three showed a loss on the enterprise. This figure represents a low spot in hog production rather than that hogs are an unprofitable enterprise. Past experience shows that at more or less regular periods - 3 to 4 years - the prices of corn and hogs are unfavorable to showing a profit for that particular time. Returns over a number of years which would include both favorable and unfavorable prices show pork production to return a net profit. This may be illustrated by comparing the figures for 1925 and 1926 with those of 1927. A combination of these three years would still show a profit. The figures for 1924 which are not included in this table would show a loss as corn was high in price and hogs cheap.

The relation of corn and hog prices will explain the differences in average profit or loss, but whatever the prices may be, there have always been wide variations in cost between individual farms for any one year. These differences in cost indicate differences in efficiency and are more significant to the individual pork producer than prices; because he has to a certain extent direct control over his own production which gives him the opportunity of eliminating wasteful methods.

Poultry

Poultry, like most of the other livestock on these farms, is a minor enterprise and more or less a by-product of grain farming. The flocks averaged 127 hens - the largest having 195 and the smallest 75. A flock of this size can secure much of its own feed during the summer months by foraging and thus make use of materials that might otherwise go to waste. Too much reliance upon this method of letting the flock shift for itself is probably one of the chief causes of the differences in net profit. Poultry shows a loss for 1927 while for the two years previous there has been a profit. Lower egg and poultry prices and higher grain prices were probably the chief causes. The rainy weather in the spring was unfavorable for both egg production and the raising of young chickens. Conditions of price and weather explain conditions from year to year, but do not account for the differences between farms for the same year. This is due to individual organization and planning and the ability to reduce the influence of adverse conditions to a minimum.

Farm Power Costs
(Horse labor and tractor labor)

The power requirements of corn belt farms is now going through some very significant changes and for this reason has been made a subject of special investigation. Horses are still the standard and chief source of power. The automobile and light truck have almost entirely taken the place of the power needs of transportation of the lighter loads. Heavy transportation is still done mostly with horses but each year with the extension of the good roads shows an increase of the heavier duty trucks. Electricity is being used on some of these cooperating farms but is confined almost entirely to household. Small engines for pumping and doing similar small belt power jobs have long held their particular place on the average farm.

Tractors have supplemented horses on many farms for field work and are continually becoming a more important source of power. Ten of the 15 farms used tractors, one of these had three tractors and another had two, making a total of 13 tractors represented on the ten farms. The other five farms used horses entirely for the field work.

Tractor Costs

The costs of operating the tractors on the ten farms represent too much variation in kind, size, and use of the tractors to be able to determine an average cost. These figures when compared with figures gathered on a special tractor study are within the limits of variation for total cost, hours of use, and cost an hour. Also, there are no unusual conditions affecting the tractor costs on these farms.

Horse Labor Costs

The cost of keeping the work horses together with the cost of operating the tractor make up the largest item of the total farm operating costs. Horse labor costs form the second largest single item of expense on the central Illinois farm, man labor being the largest.

The importance of the horse labor costs may oftentimes be underestimated because the feeds are almost entirely home grown and the other costs do not require a definite cash outlay except a few small items as veterinary expense, horse shoeing, and harness repairs.

The average figures for each work horse for total cost, net cost and hours of use and also the net cost an hour have been surprisingly constant during the last three years. The wide degree of variation between individual farms is also similar to that of former years.

Variation in costs is due mostly to differences in feed and labor cost and these are the two items that can be more directly controlled by the farm operator than any of the others. The secret of economical feed costs seems to be in the ability to adjust the feed according to the work the horses do without letting them get out of condition. The significance of this may be appreciated more fully if the hours of work are studied. The average hours work for each horse, as an average for all farms, was only 781 which is only about 25% of the possible working time. (Some of the horses on these farms will average more than 1100 hours for the year). When a horse is not working and is in good working condition he needs only a maintenance ration and this can be supplied mostly by good pasture or good roughage.

A low average cost of maintaining a work horse does not always mean cheap horse labor. A farm may have too many horses for the work to be done or the farm work may be poorly organized so that some of the horses will be needed for only a few days during the year. This will make it possible to have a low average feed cost but it will also mean low hours of use and as a result the average cost an hour will be high and the total horse power cost for the farm will be high.

Table 11.-Total Operating Cost of Tractor and Hours of Use on Ten Farms in Champaign-Piatt Counties, 1927

Farm number	27	30	15	29	13	11	10	18	24	23
Number of tractors	1	1	1	1	3[1]	2	1	1	1	1
COST ITEMS PER FARM										
Fuel and oil	$ 82.84	146.94	133.66	147.90	438.27	723.39	186.58	156.29	88.45	20.60
Repairs	9.80	50.09	19.70	61.58	165.89	117.59	89.45	-	3.65	4.00
Man labor	5.63	4.40	3.38	9.69	66.70	53.36	25.69	.51	5.80	4.51
Shelter	7.44	2.74	6.53	7.55	-	3.33	1.79	8.52	6.78	6.07
Depreciation	25.00	75.00	109.00	35.00	242.00	200.00	25.00	120.00	100.00	150.00
Int. on investment	6.25	3.75	20.45	6.25	98.22	50.00	12.50	42.40	33.75	40.00
TOTAL COST	$136.96	282.92	292.72	267.97	1,011.68	1,147.67	341.01	327.72	238.43	225.18
Hours tractors used										
Field work	278	467.5	340.7	341.3	1,050	813	396.5	211.5	209	152.7
Belt work	-	88	90	9.5	240	636	-	(192.5)[2]	17.5	-
TOTAL HOURS USED	278	555.5	430.7	350.8	1,290	1,449	396.5	404	226.5	152.7
NET COST AN HOUR	.49	.51	.68	.76	.78	.79	.86	.94	1.05	1.47
Crop acres per farm	137.51	188.03	184.89	256.75	554.33	410.97	227.08	332.10	140.25	241.25
Number of plows	2	2	2	2	3-2-3	3-2	2	3	2	2
Years purchased	1919	1918	1925 1927[3]	1919	1924 1925 1927[1]	1923 1925	1924	1927	1925	1926
Hours of man labor (Chores and overhauling)	19	15	11	34.5	218	178.5	93.5	2.0	20.0	13.2

[1] Purchased new three-bottom tractor June, 1927.
[2] Combining with power take-off, includes 102.5 hours custom work; customers furnished fuel.
[3] Traded in old tractor and bought new one.

The average cost of keeping a farm work horse on the 15 farms in Champaign and Piatt Counties in 1927 was $103.96. The lowest cost was $65.63 and the highest $168.45. This variation is typical of these cost records in the preceding years and demonstrates the possibilities of more economical horse labor.

Feed and chore labor combined make up 75 percent of the total cost. They are the items which come most directly under the control of the farm operator and are where the greatest saving can be made. The labor spent in horse chores depends upon the arrangement of the barn and the location of the feed bin, water tank and pasture lots. These are more or less fixed on most farms and cannot be readily changed, but the variation in the yearly cost of chore labor from $8.95 to $28.90 for each horse on different farms is evidence that a few minutes extra each day amounts to a considerable item for the year.

The feed cost varied from $53.77 to $127.60. This difference is due mostly to feeding economies which may be practiced because the average farm horse worked only 781 hours or only about one-fourth of the working time for the year. When a horse is not working he does not need full feed and the ability of the farmer to make use of roughages and forage during the idle periods without lowering the condition of the horse is the secret of low feed cost for horses. The average work horse on these 15 farms consumed 3,445 pounds of grain (1,877 pounds of corn, 1,561 pounds of oats, and 7 pounds of other concentrates); 1,350 pounds of hay; 1,914 pounds straw and fodder, and 143 pasture days. These amounts vary considerably on the different farms but the yearly averages for all grain and all roughages, including hay, straw and fodder, has remained fairly constant. A rough standard for estimating the feed needs of the average work horse based on farming records is that he will eat his weight in each of the following: corn, oats, hay, and other roughage which is mostly straw and besides get full feed while on pasture for the number of days equal to one-tenth of his weight. For example a 1,500 pound horse will consume 1,500 pounds of corn, 1,500 pounds of oats, 1,500 pounds of hay, and 1,500 pounds of straw and fodder, and get full feed on pasture for 150 days during the year.

The other costs of keeping a horse altho minor are by no means negligible. Interest at five percent on the money invested in horses amounted to $4,64. This item has been decreasing steadily during the last few years which means the average value of horses has been decreasing.

Depreciation averaged $9.30 per horse. This item has been increasing which would be expected with the decreasing value, as an attempt has been made to avoid market fluctuations when reinventorying horses.

Shelter which is the cost for the use of barns and sheds amounted to $6.82. Harness expense was $4.28 and miscellaneous items averaged $2.83.

The cost for each hour of horse labor used on these farms averaged 13.3 cents and varied from 7.6 cents to 16.1 cents. The hour cost depends upon the total cost and the number of hours worked. A low hour cost is not the primary object of keeping horses, but it is to have sufficient power for the farm when it is needed and without unnecessary cost. Inefficient or unproductive work would help to increase the number of hours and lower the cost for each hour. However, under average farm conditions, the cost per hour is an indication of the relative efficiency in providing horse power.

HORSE LABOR COSTS

Table 12.-Net Cost on 15 Farms (117 Work Horses) Champaign-Piatt Counties, 1927
(Items of cost and feed based on number of work horses. Farms ranked on basis of cost an hour of horse labor.)

Farm number	22	25	26	30	28	24	15	8	23
Number of work horses	8.8	4.8	10.3	4	10	5	5.8	11	5
Cost items per work horse									
Feed	$ 53.77	82.74	57.89	88.93	75.18	47.25	71.46	68.94	54.14
Man labor	8.95	14.91	19.23	23.99	17.36	21.91	17.58	8.33	28.90
Horse labor	-	.19	-	.15	.13	-	-	.12	-
Int. on invest. @ 5%	2.84	5.66	4.10	2.28	6.40	4.05	4.61	2.72	5.00
Depreciation	3.30	-	5.61	3.75	2.03	6.00	-	5.18	10.00
Shelter	2.28	12.52	4.81	12.69	4.91	6.03	6.56	2.61	12.91
Harness	3.04	9.08	2.28	4.45	2.38	5.90	4.03	3.89	5.76
Miscellaneous	2.47	3.50	5.20	1.02	.68	2.02	2.13	.45	10.34
TOTAL COST FOR YEAR	$ 76.65	128.60	99.12	137.26	109.07	93.16	106.37	92.24	127.05
Appreciation	-	2.46	-	-	-	-	.68	-	-
Manure credit	11.02	18.97	6.16	4.00	8.84	5.92	7.78	1.00	6.04
NET COST FOR YEAR	$ 65.63	107.17	92.96	133.26	100.23	87.24	97.94	91.24	121.01
AMOUNTS OF FEED (pounds)									
Corn	2,291	2,582	2,621	2,184	2,582	1,145	1,607	1,749	1,044
Oats	367	2,272	489	1,120	1,467	658	1,146	2,045	1,373
Other concentrates	9	-	-	-	-	-	-	-	-
Total concentrates	2,667	4,854	3,110	3,304	4,049	1,803	2,753	3,794	2,417
Hay	1,250	2,316	498	4,232	1,230	-	3,478	616	884
Other roughages	1,591	947	1,864	1,000	1,450	2,860	766	2,591	2,400
Number of pasture days	107	139	151	170	173	176	174	141	151
LABOR (chores)									
Man hours	31.7	53.3	66.3	81.8	61.0	75.4	57.1	28.6	84.9
Horse hours	-	1.9	-	1.3	1.0	-	-	-	-
Average hours work for each horse	866.8	1,011	770	1,080	811	670	737	686	858
NET COST AN HOUR	$ .076	.106	.121	.123	.124	.130	.133	.133	.141

Table 12. Net Cost on 15 Farms (117 Work Horses) Champaign-Piatt Counties, 1927
(Items of cost and feed based on number of work horses. Farms ranked on basis of cost an hour of horse labor)

Farm number	13	27	18	29	11	10	1927 True aver.	1926 True aver.	1925 True aver.
Number of work horses	8.7	6	15	8	9.2	5.6	7.8	7.5	8.3
COST ITEMS PER WORK HORSE									
Feed	$127.60	54.31	70.54	50.40	62.35	62.00	68.87	71.23	85.88
Man labor	15.86	13.56	8.50	14.22	11.03	11.58	14.44	15.91	14.62
Horse labor	.14	-	-	.31	-	-	.07	.20	.28
Int. on invest. @ 5%	3.70	5.15	4.75	6.27	5.24	6.65	4.64	5.31	5.22
Depreciation	17.24	14.17	-	15.00	26.86	40.79	9.30	6.76	5.07
Shelter	6.82	3.72	7.90	19.82	4.31	1.84	6.82	5.36	4.90
Harness	6.27	3.15	3.74	4.62	3.79	7.25	4.28	4.68	5.58
Miscellaneous	.58	.34	2.98	6.13	4.74	.90	2.83	1.51	1.70
TOTAL COST FOR YEAR	$178.21	94.40	98.41	116.77	118.32	131.01	111.21	110.96	123.25
Appreciation	-	-	.13	-	-	-	.15	1.56	.94
Manure credit	9.76	4.64	8.40	5.08	6.69	3.64	7.10	4.96	6.50
NET COST FOR YEAR	$168.45	89.76	89.88	111.69	111.63	127.37	103.96	104.44	115.81
AMOUNTS OF FEED (pounds)									
Corn	4,029	1,309	1,266	1,677	645	910	1,877	1,853	1,717
Oats	2,187	908	2,805	1,252	1,892	2,046	1,561	1,189	1,477
Other concentrates	37	-	-	56	-	-	7	3	1
Total concentrates	6,253	2,217	4,071	2,985	2,537	2,956	3,445	3,045	3,195
Hay	4,119	950	1,040	125	1,347	11	1,350	998	1,851
Other roughages	2,385	2,073	232	1,938	3,298	4,661	1,914	2,711	1,825
Number of pasture days	149	190	127	137	50	192	143	184	173
LABOR (chores)									
Man hours	51.8	45.8	33.1	50.6	36.9	42.1	49.5	56.8	56.0
Horse hours	.9	-	-	2.0	-	-	.5	1.5	1.8
Average hours work for each horse	1,146	611	601	715	703	791	781	789	793
NET COST AN HOUR	$ .145	.147	.150	.156	.159	.161	.133	.132	.146

Selected Items of Farm Expense

Some of the more important items of farm expense have been assembled in the accompanying table for the purposes of comparison and to show the degree of variation. The two principal items of expense are labor and power. With the increase in the costs of labor it has been necessary for each man to accomplish more work by the use of more power and larger machines, or another way of stating it is that with larger and more improved machinery each man on the farm has been able to accomplish more than formerly. Whichever way we look at it, the result has been steadily increasing importance of the power costs, the chief sources of this power being horses and tractors.

The rate for man labor shows very little variation because the standard of wages for farm labor is practically the same for all farms in a locality. Also most of the work on these farms was done by the farm operator and members of his family and this is charged at the average rate for hired labor.

The harvesting costs of corn is given because it is the largest single item of cash labor cost and is the only major field operation now done almost entirely by hand.

Machinery and equipment costs are also increasing in importance as would be expected because of the necessity of making better use of the man labor which requires more and better machinery. Care must be observed in the selection of the machinery because most farm machines receive very little actual use during the year and it is a comparatively easy matter to over-invest. The investment and expense of the crop machinery as given in this table show some variation but they are free from gross over-investment.

Buildings and fencing are also important items of expense and they show considerable variation on these farms. Mistakes in kind or number of buildings cannot be easily corrected and become a burden to the farm as long as the buildings exist.

General farm expense is a combination of all miscellaneous items which cannot be directly charged to any one account. This expense is charged against the productive enterprises (all livestock, except horses, and the field crops) on the basis of the amount of man labor used on each of these enterprises. This item illustrates how a combination of small items of expense, which might be overlooked individually, might when combined become of major importance.

SELECTED ITEMS OF EXPENSE AND INVESTMENTS

Table 13.-15 Farms in Champaign-Piatt Counties - 1927

(Farms ranked in order of rate earned)

Farm number	Rate earned on investment perct.	Acres in farm	Expense Items: Rate per hour: Man labor	Horse labor	Tractor labor	General[1] farm expense a man hour	Farm[2] buildings an acre	Fencing an acre	Major[3] power costs an acre	Crop machinery a crop acre	Corn husking cost a bushel	Investments: Farm buildings an acre	Fencing an acre	Crop machinery a crop acre
27	7.95	358.03	$.290	$.121	-	$.103	$1.67	$.23	$3.16	$.45	8.2¢	$19.97	$ .42	$1.48
26	7.70	157.91	.296	.147	$ .49	.109	1.35	.27	4.59	.78	8.0	20.25	2.32	3.26
24	7.38	159.30	.290	.130	1.05	.106	1.75	.44	4.71	1.05	6.8	22.65	2.62	4.08
25	6.08	157.85	.280	.106	-	.167	1.67	.13	4.56	.74	9.4	19.26	2.76	1.94
15	5.84	201.02	.308	.133	.68	.264	2.21	1.13	5.55	.89	10.9	18.33	8.05	2.46
18	5.27	378.02	.257	.150	.94	.223	2.26	.54	5.12	.46	11.3	16.52	2.72	2.01
29	4.89	291.76	.281	.156	.76	.119	2.89	.11	4.24	.33	8.3	28.48	2.50	2.62
28	4.65	296.60	.285	.124	-	.092	1.09	.17	3.76	.51	9.4	15.91	1.42	2.06
8	4.56	312.48	.292	.133	-	.188	.83	.33	3.84	.65	10.0	7.45	1.70	1.72
10	4.19	245.54	.275	.161	.86	.110	.83	.34	4.56	.54	10.0	9.17	1.83	2.57
22	3.62	198.49	.283	.076	-	.121	1.14	.49	3.27	.80	9.1	12.42	2.10	2.39
23	3.39	254.92	.340	.141	1.47	.214	2.34	.28	4.06	.68	8.7	14.05	1.33	2.63
11	3.06	438.62	.299	.159	.79	.150	.45	.14	5.41	.59	10.8	3.45	.71	1.56
30	2.63	226.97	.293	.123	.51	.098	1.36	.19	4.33	.48	11.5	13.95	1.74	1.71
13	2.30	638.77	.306	.147	.78	.206	1.01	.51	4.09	.63	10.6	10.51	1.81	1.57
Av.	4.38	287.75	.29	.133	.83	.15	1.45	.37	4.35	.64	9.64	15.05	2.09	2.09

[1] General Farm Expense is distributed to the productive enterprises on basis of their use of man labor.

[2] House used by operator is not included.

[3] Includes total costs of horse labor, tractor labor, truck, and share of automobile used for farm business.

Measures of Farm Efficiency

Over one million dollars ($1,076,683.60) capital investment is represented by the 15 farms whose records are included in this report. Any variation in the rate of interest earned on this total is of importance even tho it is distributed over 15 operators. There are many factors affecting farm earnings and for this reason it is a complicated business. Some of these factors, however, are more important than others. If any individual farmer can determine his own relative efficiency in regard to each of the most important factors he has the basis for knowing where to apply his ability as a manager to be the most effective.

The table on the opposite page gives some of these factors for each farm. The farms are listed in order of the rate earned on the total investment which is the best measure of the relative profitableness of the farm business as a whole. The rate earned is determined after all expenses of the farm business have been deducted from the gross receipts and also allowing for the labor of the operator and the members of the family at the rate of 28 cents an hour.

The "labor and management wage" shows what the operator would have for his own labor if he had to pay 5 percent interest on the investment after paying all other expenses. The value of the labor performed by members of the family other than the operator is included in the expenses when working out the "labor and management wage."

The crop acres per man and per horse are relative indicators of the efficiency of man labor and horse labor. The amount of livestock on the farm affects the number of acres that a man can farm because the more livestock there is the less time there is for field work. The only exception to this would be where the livestock were used to pasture off most of the crops which would make a very definite saving of man labor. If quality of work, however, is sacrificed to obtain high crop acres per man and per horse, it will usually result in lower net earnings of the farm.

The crop acres per horse are influenced by the tractor as well as by efficiency of horse labor used. The introduction of a tractor into the farm equipment usually reduces the number of horses for a given crop area. Saving of man and horse labor may be affected by: (1) large machines in good working order and adapted to the job being done; (2) a crop rotation that distributes the work over the growing season and does not pile it up during any one period; (3) having both horses and men that are at least average in their intelligence and their ability to work.

Returns for each 100 pounds feed fed will show differences in efficiency in livestock production because feed is the principal item of expense in producing all kinds of livestock.

Livestock income per acre indicates the relative size of the livestock business. Livestock efficiency has greater effect upon the net earnings of the farm business when the income from livestock is large than when it is small. To illustrate: Two farms may show $250 returns for every $100 worth of feed fed which shows good livestock efficiency when compared with the average of $166. One of these farms may have only $5.00 and the other $20.00

MEASURES OF EFFICIENCY IN FARM PRODUCTION

Table 14.-15 Farms Champaign-Piatt Counties arranged according to RATE EARNED ON INVESTMENT, 1927

Farm number	Rate earned on investment	Labor and management wage	Acres in farm	Crop acres	Crop acres per man	Crop acres per horse	Returns per $100 feed fed	Livestock income per acre	Crop Yields			
									Corn	Oats	Wheat	Clover and mixed hay
	percent								bu.	bu.	bu.	tons
26	7.95	$ 2,074.39	358.03	339.81	147.74	32.89	$139.20	3.24	44.8	31.4	20.2	4.58
27	7.70	1,954.71	157.91	137.51	114.59	22.82[1]	231.67	7.94	60.7	40.1	-	1.58
24	7.38	1,993.48	159.30	140.25	100.17	28.05[1]	202.83	10.98	52.0	29.2	-	3.85
25	6.08	1,188.80	157.85	136.44	113.7	28.72	239.53	7.48	41.8	27.2	19.9	1.45
15	5.84	1,343.08	201.02	184.89	92.44	32.16[1]	128.41	19.33	64.1	-	16.7	2.27
18	5.27	956.85	378.02	332.10	127.73	22.14[1]	155.13	5.03	43.8	-	-	-
29	4.89	756.77	291.76	256.75	128.27	32.09[1]	149.42	10.15	42.3	42.6	16.9	-
28	4.65	699.40	296.60	248.97	138.31	24.89	175.48	7.25	34.3	23.9	17.6	1.41
8	4.56	- 115.78	312.48	218.50	136.57	19.86	131.37	7.10	50.1	60.8	19.1	-
10	4.19	4.02	245.54	227.08	126.15	40.55[1]	84.63	2.79	49.1	27.9	-	-
22	3.62	203.94	198.49	175.30	116.86	19.92	216.55	5.67	43.3	43.7	18.3	2.36
23	3.39	-737.88	254.92	241.25	160.83	48.24[1]	97.40	.53	45.0	37.2	25.9	-
11	3.06	-2,085.93	438.62	410.97	128.42	45.66[1]	209.64	4.41	31.9	29.4	27.3	1.23
30	2.63	-170.95	226.97	188.03	94.01	47.00[1]	150.28	8.93	33.0	13.5	16.33	-
13	2.30	-4,168.08	638.77	544.33	135.2	63.72[1]	122.91	1.35	43.7	28.0	23.0	2.74
Aver.	4.38	259.79	287.75	252.81	125.57	32.41	154.62	5.84	44.0	32.2	20.0	1.71

[1] Farms with tractor.

per acre income from livestock. It is apparent that on the latter farm livestock contributes more to the net income and that efficient livestock production means more than on the farm with only $5.00 income from livestock per acre.

Crop yields have been found to be one of the most important factors affecting farm earnings. This is true partly because farm expense on the acre basis is fairly constant and is not influenced to a very great extent by the yield. However, in order to obtain and maintain good yields it is necessary to have a long time program of soil improvement which will permit earnings to be made while it is being put into effect.

Farm Business Analysis

The chart on the opposite page is made up in such a way that each farm can be shown in relation to the average of the 15 farms for each of the factors at the top of the columns.

The figures between the lines running across the page thru the center of the chart represent the average of the 15 farms. The figures above and below represent a graduated scale for each factor which is used in locating the points where each farm would come in relation to the average.

By drawing a line across a point where the figure for your farm would come you can see how your farm compares with the average.

Find Your Farm Leaks
Champaign and Piatt Counties - 1927

The numbers between the lines across the middle of the page are the approximate averages for your county of the factors named at the top of the page. By drawing a line across each column at the number measuring the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

Rate earned on investment	Crops						Livestock		Man labor		Horse labor		Tractor expense per hour	Size of farm
	Corn		Oats		Wheat									
	Yield per acre	Cost per bushel	Yield per acre	Cost per bushel	Yield per acre	Cost per bushel	Returns per 100# feed fed	Income per acre	Crop acres per man	Rate per hour	Crop acres per horse	Rate per hour		
7.9	65	$ .39	53	$.39	27	$ .82	$225	$19.84	160	.276	46	.098	.48	428
7.4	62	.42	50	.42	26	.87	215	17.84	155	.278	44	.103	.53	408
6.9	59	.45	47	.45	25	.92	205	15.84	150	.280	42	.108	.58	388
6.4	56	.48	44	.48	24	.97	195	13.84	145	.282	40	.113	.63	368
5.9	53	.51	41	.51	23	1.02	185	11.84	140	.284	38	.118	.68	348
5.4	50	.54	38	.54	22	1.07	175	9.84	135	.286	36	.123	.73	328
4.9	47	.57	35	.57	21	1.12	165	7.84	130	.288	34	.128	.78	308
4.4	44	.60	32	.60	20	1.17	155	5.84	125	.29	32	.133	.83	288
3.9	41	.63	29	.63	19	1.22	145	3.84	120	.292	30	.138	.88	268
3.4	38	.66	26	.66	18	1.27	135	1.84	115	.294	28	.143	.93	248
2.9	35	.69	23	.69	17	1.32	125	-	110	.296	26	.148	.98	228
2.4	32	.72	20	.72	16	1.37	115	-	105	.298	24	.153	1.03	208
1.9	29	.75	17	.75	15	1.42	105	-	100	.300	22	.158	1.08	188
1.4	26	.88	14	.88	14	1.47	95	-	95	.302	20	.163	1.13	168
.9	23	.91	11	.91	13	1.52	85	-	90	.304	18	.168	1.18	148

UNIVERSITY OF ILLINOIS

Department of Farm Organization and Management

and the

Farm Bureaus of

Livingston, McLean, Tazewell, and Woodford Counties

Cooperating

SUPPLEMENTAL SUMMARY REPORT

of the
FARM BUREAU-FARM MANAGEMENT SERVICE

For the years 1925, 1926, and 1927, for

FARMS OPERATED BY TENANTS

This report should be studied only in connection with the Summary Report of the Farm Bureau-Farm Management Service of the same date.

Urbana, Illinois

September 1928

SUPPLEMENTAL SUMMARY REPORT

Of Farms Operated by Tenants Who Have Cooperated in the
Farm Bureau-Farm Management Service
For the three-year period of 1925, 1926, and 1927

Prepared by M. L. Mosher and H. C. M. Case

This supplemental report has been prepared for the benefit of the tenant cooperators who have shown in their records the division of receipts and expenses between the tenant and the landlord.

Differences in Tenants' Incomes

It will be noted (see Table 2) that, as an average, the ten most successful of the fifty tenants whose records were used in this report received a labor and management wage of $2,140 per farm per year for the three-year period. The ten least profitable tenant farms returned the operators an average of only $129 per farm per year for labor and management. The tenant's labor and management wage is what there is left after deducting from his total receipts all cash operating expenses, depreciation on his equipment, an allowance for family labor other than the operator's, and five percent interest on his investment in equipment, livestock and grain on hand at the beginning of the year.

It will be seen that one-fifth of the tenants made their business pay them a labor and management wage of about $2,000 per farm per year more than was received by another one-fifth of them.

There was a difference in the landlord's net income of 59 percent on the landlord's investment, in favor of the farms operated by the more successful tenants. This difference in rate applied to the average landlord's investment would amount to about $280.

Location of Differences in Tenants' Incomes

A careful comparison of the data shown in Table 2 of this report with that in Table 2 of the complete report, to which this is a supplement, will show that, in general, the same statements which were made as regards the location of differences in the earnings of the whole farm business apply to the differences in the tenant's share of the income.

The difference in crop yields was less important in making the differences in tenant incomes than when the total farm income was studied. On the other hand, more of the difference in income was due to the differences in the amounts of livestock on the more profitable and the less profitable tenant farms.

These data indicate very clearly the value of a profitable cropping system, and the value of livestock on the tenant farm.

Table 1.-SUMMARY OF THE THREE-YEARS' FARM BUSINESS

Items	Average of 50 tenant farms			Average of 10 tenant farms with highest operator's labor and management wage			Average of 10 tenant farms with lowest operator's labor and management wage		
	Whole farm business	Tenant's share	Landlord's share	Whole farm business	Tenant's share	Landlord's share	Whole farm business	Tenant's share	Landlord's share
Capital - Total	$54,109	$6,676	$47,433	$63,642	$7,577	$56,065	$50,806	$6,332	$44,474
Land	41,026	-	41,026	48,313	-	48,313	38,759	-	38,759
Farm improvements	4,884	193	4,691	5,450	47	5,403	4,402	123	4,279
Machinery and equipment	1,649	1,648	1	2,040	2,040	-	1,544	1,544	-
Feed, grain, supplies	3,868	2,323	1,545	4,661	2,584	2,077	3,933	2,497	1,436
Livestock - Total	2,682	2,512	170	3,178	2,906	272	2,168	2,168	-
Horses	734	726	8	622	622	-	778	778	-
Cattle	827	776	51	855	803	52	710	710	-
Hogs	865	758	107	1,369	1,169	200	526	526	-
Sheep	111	107	4	159	139	20	52	52	-
Poultry	143	143	-	173	173	-	102	102	-
Bees	2	2	-	-	-	-	-	-	-
Dogs	-	-	-	-	-	-	-	-	-
Receipts - Total	$ 4,798	$3,311	$1,912	$6,912	$5,042	$2,448	$3,463	$2,257	$1,658
Farm improvements	-	1	-	-	3	-	-	-	-
Feed, grain, supplies	1,931	723	1,347	1,868	606	1,503	1,679	473	1,354
Labor off the farm	45	45	-	78	78	-	25	25	-
Miscellaneous	14	14	-	15	15	-	12	12	-
Cash rent	-	-	285	-	-	334	-	-	304
Livestock - Total	2,808	2,528	280	4,951	4,340	611	1,747	1,747	-
Horses	16	16	-	13	13	-	26	26	-
Cattle	356	311	45	498	428	70	341	341	-
Hogs	1,760	1,547	213	3,373	2,878	495	1,029	1,029	-
Sheep	50	47	3	65	49	16	25	25	-
Poultry	115	115	-	147	147	-	68	68	-
Egg sales	143	143	-	230	230	-	77	77	-
Dairy sales	367	348	19	625	595	30	181	181	-
Bees	-	-	-	-	-	-	-	-	-
Dogs	1	1	-	-	-	-	-	-	-

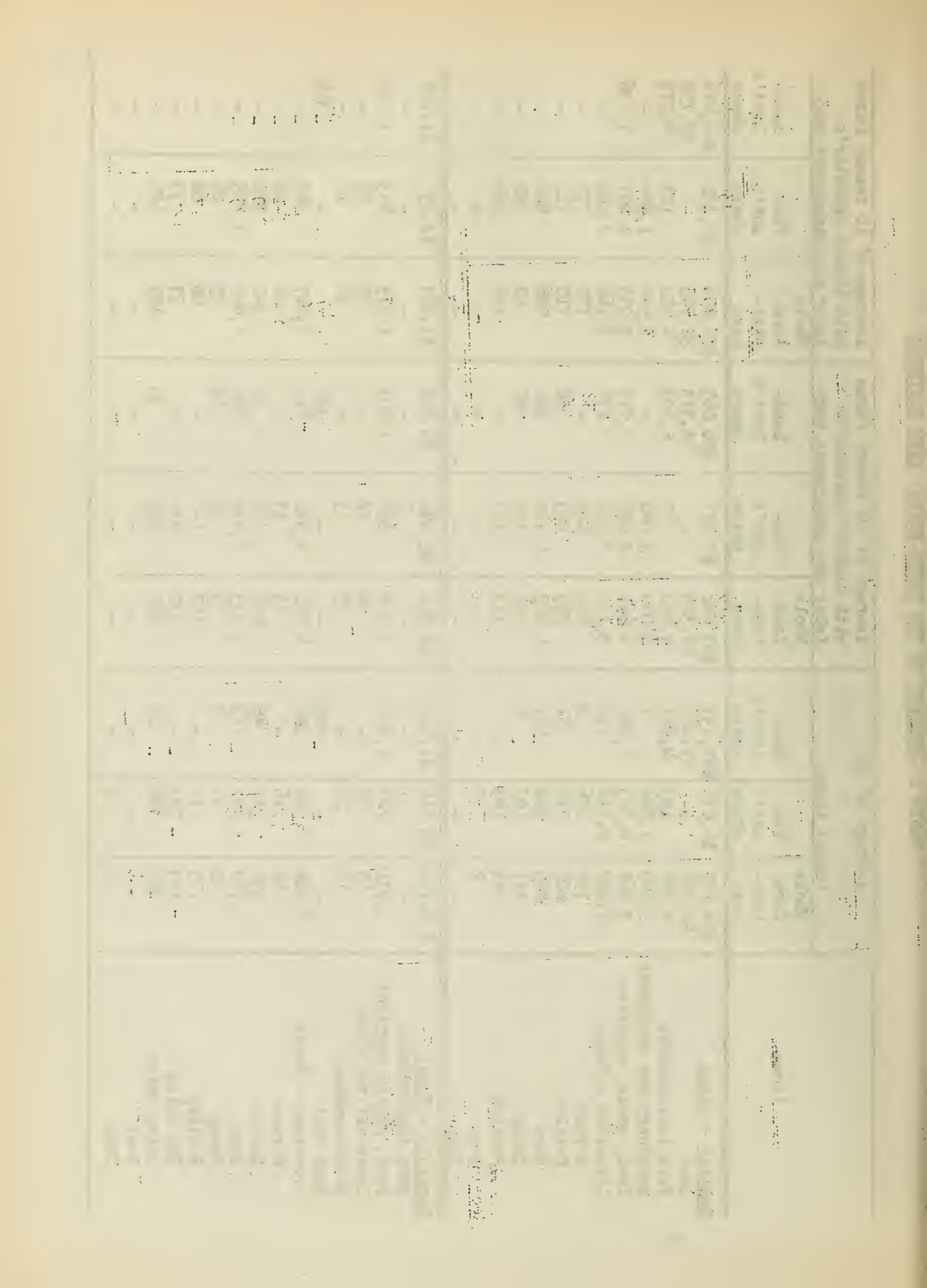


Table 1.-SUMMARY OF THE THREE-YEARS' FARM BUSINESS (Continued)

Items	Average of 50 tenant farms			Average of 10 tenant farms with highest operator's labor and management wage			Average of 10 tenant farms with lowest operator's labor and management wage		
	Whole farm business	Tenant's share	Landlord's share	Whole farm business	Tenant's share	Landlord's share	Whole farm business	Tenant's share	Landlord's share
Expenses - Total	$2,081	$1,837	$ 669	$2,655	$2,443	$ 790	$1,890	$1,739	$ 603
Farm improvements	235	21	215	254	11	246	247	21	226
Machinery and equipment	445	445	-	501	501	-	432	432	-
Feed, grain, supplies	47	179	7	236	441	36	-	148	-
Misc. livestock expense	55	50	5	80	67	13	40	40	-
Misc. crop expense	242	196	46	256	201	55	219	192	27
Hired labor	534	528	6	768	748	20	483	483	-
Tax, insurance, etc.	442	53	389	467	48	419	402	52	350
Misc. expenses	43	42	1	49	48	1	39	39	-
Horses - decreases	36	36	-	39	39	-	28	28	-
Misc.livestock decreases	2	2	-	5	5	-	-	-	-
Cash rent	-	285	-	-	334	-	-	304	-
Receipts less expenses	$2,717	$1,474	$1,243	$4,256	$2,599	$1,658	$1,573	$ 518	$1,055
Op's and family labor	799	799	-	800	800	-	771	771	-
Net income from investment	1,918	675	1,243	3,456	1,799	1,658	802	-253	1,055

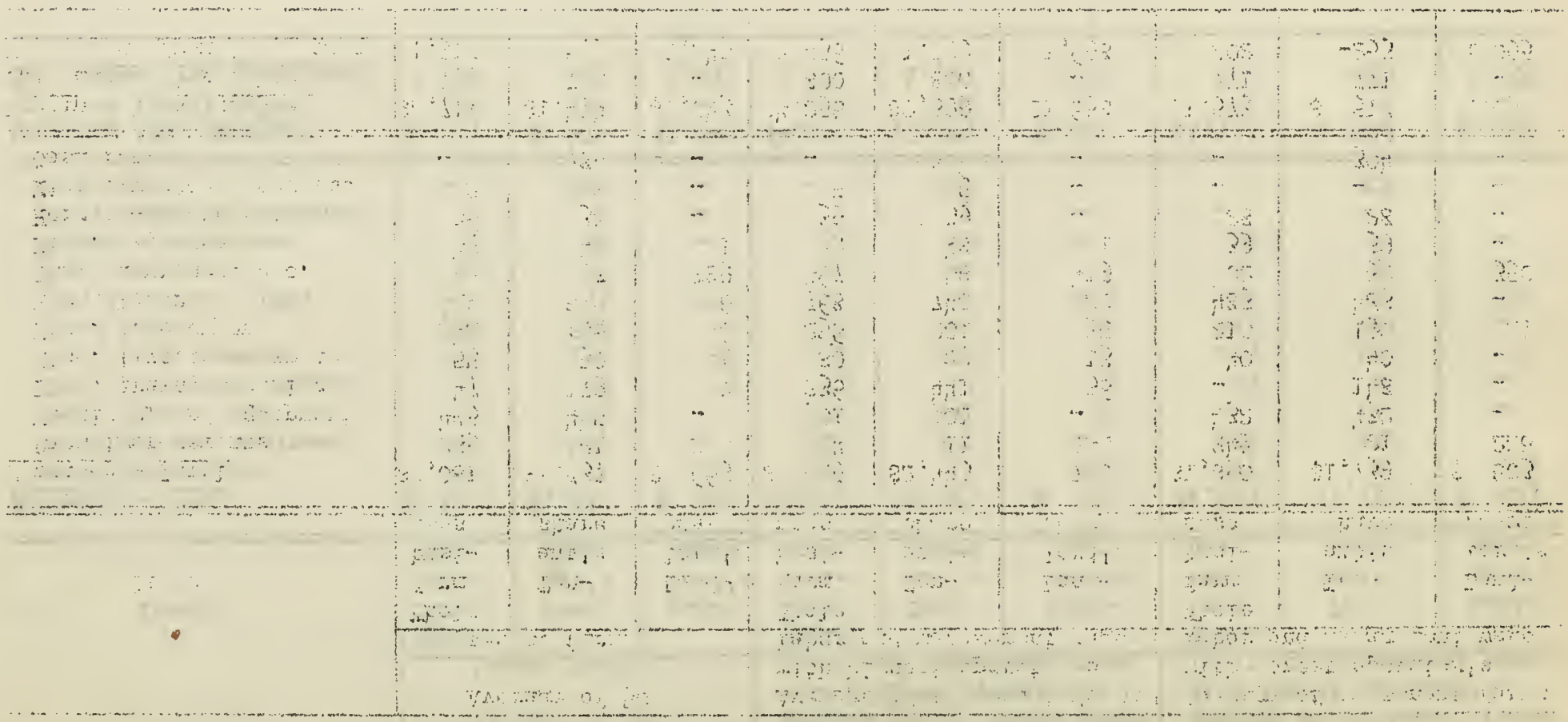


Table 2.-IMPORTANT FACTORS WHICH SHOW DIFFERENCES IN ORGANIZATION AND EFFICIENCY ON THE MORE SUCCESSFUL, AS COMPARED WITH THE LESS SUCCESSFUL TENANT FARMS

Item	Average of 50 tenant farms	Average of 10 tenant farms with highest operator's labor and management wage	Average of 10 tenant farms with lowest operator's labor and management wage
Rate earned on investment			
Total farm	3.54%	5.43%	1.58%
Tenant's share	10.11%	23.74%	-3.99%
Landlord's share	2.62%	2.96%	2.37%
Operator's labor and management wage	$1,054.	$2,140.	$ 129.
Size of farm	211.3	244.7	210.0
Total investments per acre	$ 256.08	$ 260.06	$ 241.89
Land	194.17	197.42	184.54
Improvements	23.11	22.27	20.96
Horses and machinery	11.27	10.88	11.05
Productive livestock	9.22	10.44	6.62
Feed, grain and supplies	18.31	19.05	18.72
Percent of farm tillable	91.5%	89.2%	88.0%
Percent tillable land in			
High profit crops	60.1%	63.0%	60.1%
Medium profit crops	9.0%	11.5%	6.2%
Low profit crops	30.9%	25.5%	33.7%
Corn	45.2%	46.5%	45.9%
Oats	24.6%	19.6%	29.6%
Winter wheat	7.0%	9.7%	5.7%
All grain and hay crops	88.4%	91.1%	90.4%
All legumes	14.7%	12.7%	11.9%
Yield of corn	48.6	50.4	43.4
Yield of oats	36.2	38.7	33.3
Yield of wheat	18.5	19.5	18.9
Feed used per acre	$ 9.28	$ 13.11	$ 7.03
Returns per $100 feed	155.70	163.70	137.26
Percent of average prices received	100.2%	102.4%	98.7%
Labor cost per acre	$ 6.31	$ 6.41	$ 5.97
Horse and machinery cost per acre	4.53	4.32	4.49
Percent of average crop acres worked with			
Average labor cost	107.7%	116.6%	107.9%
Average power and machinery cost	103.8%	114.8%	98.6%

UNIVERSITY OF ILLINOIS

COLLEGE OF AGRICULTURE

Departments of Farm Organization and Management

and Dairy Husbandry

and

STEPHENSON, OGLE, LEE, LaSALLE, PEORIA, AND VERMILION COUNTY FARM BUREAUS

Cooperating

DAIRY ENTERPRISE COST STUDY

on

Thirty-two Farms

for

1927

The farm account is a guide
to more profitable farm management
if its facts are studied and used.

Urbana, Illinois

June, 1928

M 101

DAIRY ENTERPRISE COST STUDY IN NORTH CENTRAL ILLINOIS

Prepared by K. T. Wright, H. C. M. Case, and C. S. Rhode

The 32 farmers included in this study were located in Stephenson, Ogle, Lee, LaSalle, Peoria, Tazewell, and Vermilion Counties. These dairymen kept a financial record on their entire farm and a special record on their dairy cows in addition to the Dairy Herd Improvement Association record that was kept in connection with the work of the association. These three records supply enough information for a dairy enterprise cost study on those farms. The sale of dairy products accounted for $1,670 of the annual income on the average on these farms. While this is not as large a share of the income as dairy products were in the study conducted in the Chicago whole milk area, nevertheless dairying is one of the major sources of income on these farms.

A study of Table 1 which follows shows that the various farms differed widely in their costs, income, and profit per cow. One farmer managed to keep his cost per cow down to $95.27, while the highest cost was $186.29 or nearly twice as much. The three items of cost, feed, man labor and depreciation, are generally responsible for most of the difference in total cost per cow. Feed made up 54.2 percent of the total cost on these farms, man labor 21 percent, and depreciation 5.4 percent, which accounts for 80.6 percent of the total cost. Feed cost per cow ranged from $51.45 to $105.06, man labor charge from $15.49 to $57.13 and depreciation varied from an increase in value of $14.50 to a loss of $34.73 per cow. These variations show that there is considerable opportunity to lower the costs of production through good management.

The average production for all farms was 288 pounds of butterfat or 7,578 pounds of milk per cow. The production of butterfat varied from 205 to 464 pounds and milk production varied from 5,549 to 12,964 pounds. Since there were Holstein, Guernsey, Brown Swiss, and Jersey cows on these farms it is best to compare both milk and butterfat production rather than milk alone.

Feeding practices differ widely on the various farms. Some dairymen feed a large amount of mill feeds, other men feed practically no mill feeds, others feed a heavy grain ration, while others feed a large quantity of hay and silage with little grain and mill feeds. A study of the quantity of feeds fed on the different farms together with their production and costs may lead to some interesting conclusions.

In the dairy enterprise cost study in the Chicago whole milk area a comparison was made of the man hours required and equipment expense on farms using milking machines and those without milking machines. The farms using milking machines averaged 21.7 cows, requiring 136 hours of man labor per cow, and the farms without milking machines averaged 16.6 cows requiring 164 hours per cow. This difference of 5 cows per farm in the size of herds on the farms using milking machines and those not using milking machines would account for part of the lower labor requirement on the farms using milking machines. From a summary of a large number of herds it was found that 162 hours of man labor per year were required per cow on herds of 10 cows or less and 143 hours on herds of 20 cows or more. The equipment expense per cow on the farms using milking machines was $3.95 and 98 cents on the farms not using milking machines.

MILK PRODUCTION COSTS (per cow) 1927

Table 1. - Items of cost and income per cow on 32 farms in North Central Illinois
(Farms ranked in order of net profit per cow)

Farm number	67	68	82	89	81	90	66	80	58
COSTS, per cow									
Feed & bedding	$86.81	$51.45	$90.92	$74.13	$87.48	$76.85	$72.36	$46.67	$96.76
Man labor	38.43	19.41	30.95	31.32	23.53	27.01	32.39	15.49	37.50
Int. on invest. in cows	7.68	4.80	6.67	4.40	6.09	4.50	10.78	4.69	6.31
Depreciation	---	1.52	---	---	---	3.12	---	6.17	---
Shelter	5.27	1.06	.78	.49	5.90	2.50	3.21	5.19	4.63
Equipment	3.54	6.18	.72	.84	.60	1.35	3.42	6.13	1.63
Veterinary & medicine	6.34	.19	1.83	.46	---	---	.46	---	1.48
Association dues	6.51	4.09	7.00	3.06	7.24	6.25	7.81	3.89	6.47
General farm expense	10.42	5.70	9.80	8.17	8.89	8.26	8.48	4.95	10.67
Miscellaneous	.87	.87	---	---	.23	---	---	---	---
TOTAL COST	$165.87	$95.27	$148.67	$122.87	$139.96	$129.84	$138.91	$93.18	$165.45
INCOME									
Dairy sales	$226.83	$139.15	$206.03	$118.71	$139.56	$114.06	$107.61	$115.17	$150.02
Milk used on farm	52.33	32.66	11.34	52.50	35.18	58.48	64.02	14.26	32.35
Appreciation	3.01	---	---	6.57	14.14	---	1.72	---	5.39
Manure	9.16	7.27	11.11	5.93	8.62	12.41	12.07	7.72	19.61
TOTAL INCOME	$291.33	$179.08	$228.48	$183.71	$197.50	$184.95	$185.42	$137.15	$207.37
NET PROFIT	$125.46	$83.81	$79.81	$60.84	$57.54	$55.11	$46.51	$43.97	$41.92
MILK (in lbs.)	12,964	5,549	9,335	6,585	10,020	8,485	7,739	7,846	9,104
BUTTERFAT (in lbs.)	464	255	352	303	358	315	259	277	300
FEEDS (in lbs.)									
Corn	1,517	570	1,591		1,020		1,108	779	18
Oats	1,103	714	1,451		2,500		1,068	94	443
Barley	---	201	---		---		127	---	1,460
Total grain	2,620	1,485	3,042	(2,816	3,520	(3,286	2,303	873	1,921
Mill feed	902	75	260	(	878	(	42	347	745
Hay	680	1,664	3,095	1,119	2,010	2,342	1,277	1,376	2,572
Silage	9,867	5,609	588	5,568	5,509	---	6,567	1,801	6,527
Other roughage	---	---	---	---	---	152	---	---	---
Pasture days	190	163	214	214	215	214	153	214	184
Man hours	154	78	124	135	94	108	130	62	150
COWS, per farm	8.3	13.2	9.0	10.8	8.7	11.2	8.7	16.2	10.2
Breed	PBH	PB&GG	Mixed	Mixed	GH	PB&GH	PBH	GH	PB&GH

Farms from the following counties were included in this study: Stephenson, Ogle, Lee, LaSalle, Peoria, Tazewell, and Vermilion.

Continued

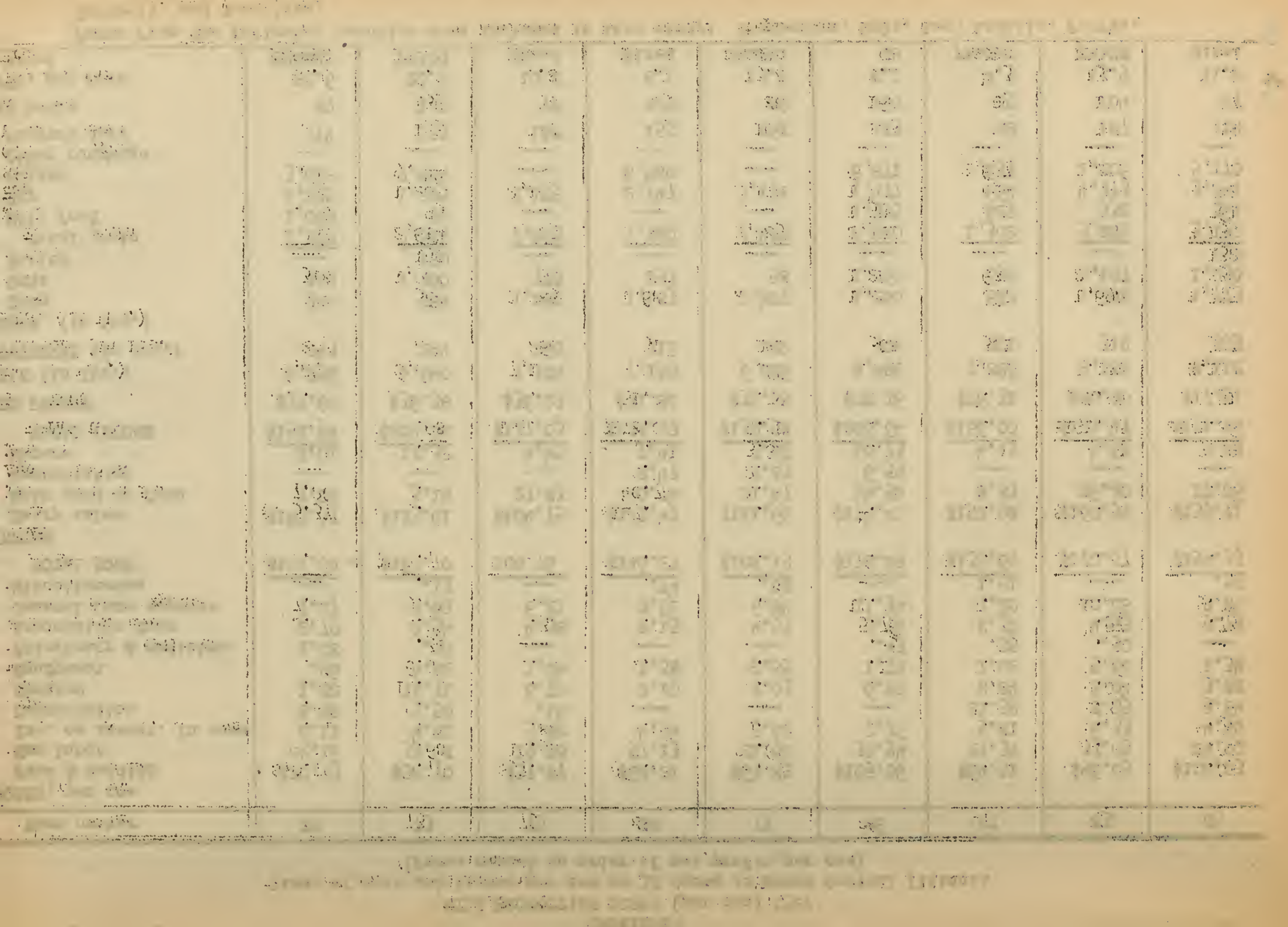
MILK PRODUCTION COSTS (per cow) 1927

Items of cost and income per cow on 32 farms in North Central Illinois

(Farms ranked in order of net profit per cow)

Farm number	78	73	75	88	79	86	87	83	85
COSTS, per cow									
Feed & bedding	$70.79	$92.70	$57.87	$62.21	$64.89	$105.06	$64.51	$96.05	$100.03
Man labor	22.16	33.68	19.58	57.13	21.61	39.94	21.34	33.05	24.90
Int. on invest. in cows	6.11	4.81	3.82	4.94	5.62	7.76	5.81	6.33	4.50
Depreciation	8.58	5.50	.14	---	---	---	21.39	8.35	3.64
Shelter	1.82	11.71	6.72	2.10	2.03	6.80	8.24	6.04	3.82
Equipment	.26	6.82	1.04	1.38	2.55	1.19	1.02	5.66	1.34
Veterinary & medicine	1.08	.30	---	---	---	.43	.35	.50	---
Association dues	2.79	2.34	4.38	8.15	4.57	5.76	8.32	4.53	5.73
General farm expense	7.27	9.69	6.21	9.62	6.84	11.34	7.20	10.06	9.84
Miscellaneous	---	.15	---	.74	.08	---	1.51	---	.55
TOTAL COST	$121.04	$167.70	100.76	$146.27	$108.19	$178.28	$139.69	$170.57	$154.35
INCOME									
Dairy sales	$143.37	$183.61	$104.75	$127.47	$111.66	$174.42	$152.98	$160.59	$135.71
Milk used on farm	7.26	3.15	27.83	40.74	21.47	14.90	8.83	26.20	27.06
Appreciation	---	---	---	2.47	2.83	6.59	---	---	---
Manure	8.01	17.32	4.45	7.41	3.62	10.73	4.19	4.68	9.09
TOTAL INCOME	$158.64	$204.08	$137.03	$178.09	$139.58	$206.64	$166.00	$191.47	$171.86
NET PROFIT	$37.60	$36.38	$36.27	$31.82	$31.39	$28.36	$26.31	$20.90	$17.51
MILK (in lbs.)	6,256	6,640	7,104	7,155	6,666	8,486	7,826	9,182	8,112
BUTTERFAT (in lbs.)	243	294	260	316	282	308	301	319	393
FEEDS, (in lbs.)									
Corn	944	564	1,285	1,683	2,427	1,260	667	1,692	1,773
Oats	318	1,900	778	297	58	1,260	635	2,197	1,230
Barley	---	150	---	---	---	---	---	---	132
Total grain	1,262	2,614	2,063	1,980	2,485	2,520	1,302	3,889	3,135
Mill feed	1,069	95	---	---	---	1,395	627	532	361
Hay	1,235	1,205	2,155	2,147	2,178	1,477	664	4,973	3,241
Silage	3,622	9,544	---	6,480	---	6,871	2,657	1,206	5,170
Other roughage	---	---	---	---	---	---	---	---	---
Pasture days	214	153	168	153	168	183	92	107	214
Man hours	89	135	78	229	86	160	85	104	97
COWS, per farm	22.6	26.9	10.8	8.1	13.8	8.2	4.3	13.9	11.0
Breed	PB&GBS	PB&GG	Mixed	Mixed	PB&GBS	GH	PB&GBS	PB&GH	Mixed

Farms from the following counties were included in this study: Stephenson, Ogle, Lee, LaSalle, Peoria, Tazewell, and Vermilion.



Continued

MILK PRODUCTION COSTS (per cow) 1927

Items of cost and income per cow on 32 farms in North Central Illinois

(Farms ranked in order of net profit per cow)

Farm number	65	69	72	62	64	71	84	77
COSTS, per cow								
Feed & bedding	$99.54	$73.51	$104.27	$97.66	$70.62	$78.00	$104.89	$66.01
Man labor	32.44	37.97	27.76	36.43	20.22	38.21	24.37	28.12
Int. on invest. in cows	7.14	4.13	5.83	5.97	5.56	5.44	8.71	5.57
Depreciation	13.11	---	25.30	.57	14.38	34.73	6.70	17.53
Shelter	5.88	1.87	4.10	9.74	4.19	1.96	6.25	1.99
Equipment	1.94	1.75	1.12	2.48	3.51	5.62	14.44	3.30
Veterinary & medicine	.42	---	2.75	.16	.07	1.01	5.36	---
Association dues	3.53	6.00	4.70	5.22	2.53	2.42	5.62	8.18
General farm expense	10.19	8.81	10.46	10.46	7.01	9.05	10.52	7.68
Miscellaneous	---	---	---	.06	---	.99	---	.09
TOTAL COST	$174.19	$134.04	$186.29	$168.75	$128.09	$177.43	$186.86	$138.47
INCOME								
Dairy sales	$123.05	$104.86	$174.93	$140.29	$95.47	$156.61	$136.95	$106.58
Milk used on farm	54.69	32.64	18.08	26.56	29.52	15.36	43.39	26.31
Appreciation	---	2.80	---	---	---	---	---	---
Manure	13.86	7.00	5.67	14.21	13.77	13.54	9.11	6.62
TOTAL INCOME	$191.60	$147.30	$198.68	$181.06	$138.76	$185.51	$189.45	$139.51
NET PROFIT	$17.41	$13.26	$12.39	$12.31	$10.67	$8.08	$2.59	$1.04
MILK (in lbs.)	10,084	5,973	6,837	7,553	7,037	6,863	10,205	5,673
BUTTERFAT (in lbs.)	311	272	318	284	246	234	355	319
FEEDS (in lbs.)								
Corn	1,366	801	2,396	---	---	976	2,925	1,073
Oats	684	870	556	725	372	975	502	1,181
Barley	---	---	---	935	785	---	---	---
Total grain	2,050	1,671	2,952	1,660	1,157	1,951	3,427	2,254
Mill feed	298	118	383	579	374	837	594	242
Hay	2,543	1,753	2,179	1,785	2,312	1,611	1,664	1,189
Silage	7,467	4,416	9,129	8,718	3,916	5,033	5,975	---
Other roughages	1,647	---	---	---	---	---	---	---
Pasture days	153	184	122	183	183	184	184	214
Man hours	130	152	111	146	81	153	97	112
COWS, per farm	11.9	10.0	13.4	15.9	26.5	26.0	11.2	7.7
Breed	PB&GH	PB&GG	GG	PB&GBS	PB&GH	GH	PB&GH	PBJ

Farms from the following counties were included in this study: Stephenson, Ogle, Lee, LaSalle, Peoria, Tazewell, and Vermilion.

Continued

MILK PRODUCTION COSTS (per cow) 1927

Items of cost and income per cow on 32 farms in North Central Illinois

(Farms ranked in order of net profit per cow)

Farm number	76	74	63	59	60	61	Average 32 farms
COSTS, per cow							
Feed & bedding	$91.33	$88.42	$62.52	$83.40	$81.48	$68.60	$79.43
Man labor	40.30	37.47	34.02	51.49	33.77	46.85	30.82
Int. on invest. in cows	7.28	3.87	4.78	4.85	6.79	5.16	5.70
Depreciation	---	10.53	7.32	---	5.28	14.13	7.86
Shelter	5.22	2.94	3.03	7.93	6.11	8.33	4.66
Equipment	2.20	.96	4.64	.95	11.93	8.10	3.73
Veterinary & medicine	---	.26	---	1.24	---	.33	.71
Association dues	9.40	5.92	2.86	7.42	6.23	7.17	4.75
General farm expense	10.58	9.92	7.45	10.80	9.11	9.22	8.69
Miscellaneous	---	.26	---	.50	---	---	.19
TOTAL COST	$166.31	$160.55	$126.62	$168.58	$160.70	$167.89	$146.54
INCOME							
Dairy sales	$108.74	$129.24	$79.02	$100.05	$96.94	$82.31	$132.61
Milk used on farm	43.01	24.22	27.94	32.37	30.97	37.37	27.44
Appreciation	6.72	---	---	14.50	---	---	1.49
Manure	7.61	2.76	11.08	9.10	7.45	11.47	10.03
TOTAL INCOME	$166.08	$156.22	$119.04	$156.02	$135.36	$131.14	$171.57
NET PROFIT	$ - .23	$ -4.33	$ -7.58	$-12.56	$-25.34	$-36.75	$-25.03
MILK (in lbs.)	9,638	7,403	6,308	8,218	6,807	7,252	7,578
BUTTERFAT (in lbs.)	321	318	205	275	247	252	288
FEEDS (in lbs.)							
Corn	1,941	1,208	415	703	681	441	968
Oats	1,543	1,699	488	719	334	342	813
Barley	---	232	289	178	588	383	198
Total grain	3,484	3,139	1,192	1,600	1,603	1,166	1,979
Mill feed	214	23	162	273	586	425	350
Hay	2,124	1,674	1,212	2,247	1,645	1,636	1,863
Silage	---	4,897	3,829	7,620	6,455	2,678	4,699
Other roughage	---	---	113	---	---	---	591
Pasture days	168	183	214	183	203	214	180
Man hours	161	150	136	206	135	187	123
COWS, per farm	6.7	7.6	23.1	8.9	10.6	9.2	12.6
Breed	PB&GH	PB&GG	PB&GH	Mixed	PB&GH	Mixed	

Farms from the following counties were included in this study: Stephenson, Ogle, Lee, LaSalle, Peoria, Tazewell, and Vermilion.

COSTS OF PRODUCING 100 POUNDS OF MILK

In this study the cost of producing 100 pounds of milk ranged from $1.19 to $2.72 with the average $1.93. (See Table 2). On farm number 80 with the lowest total cost, the feed cost is unusually low, the man labor charge is low, and the depreciation is slightly less than the average. Farm number 72 with the highest cost has 93 cents per hundred more feed expense, 20 cents more labor charge, and 29 cents more depreciation than farm number 80.

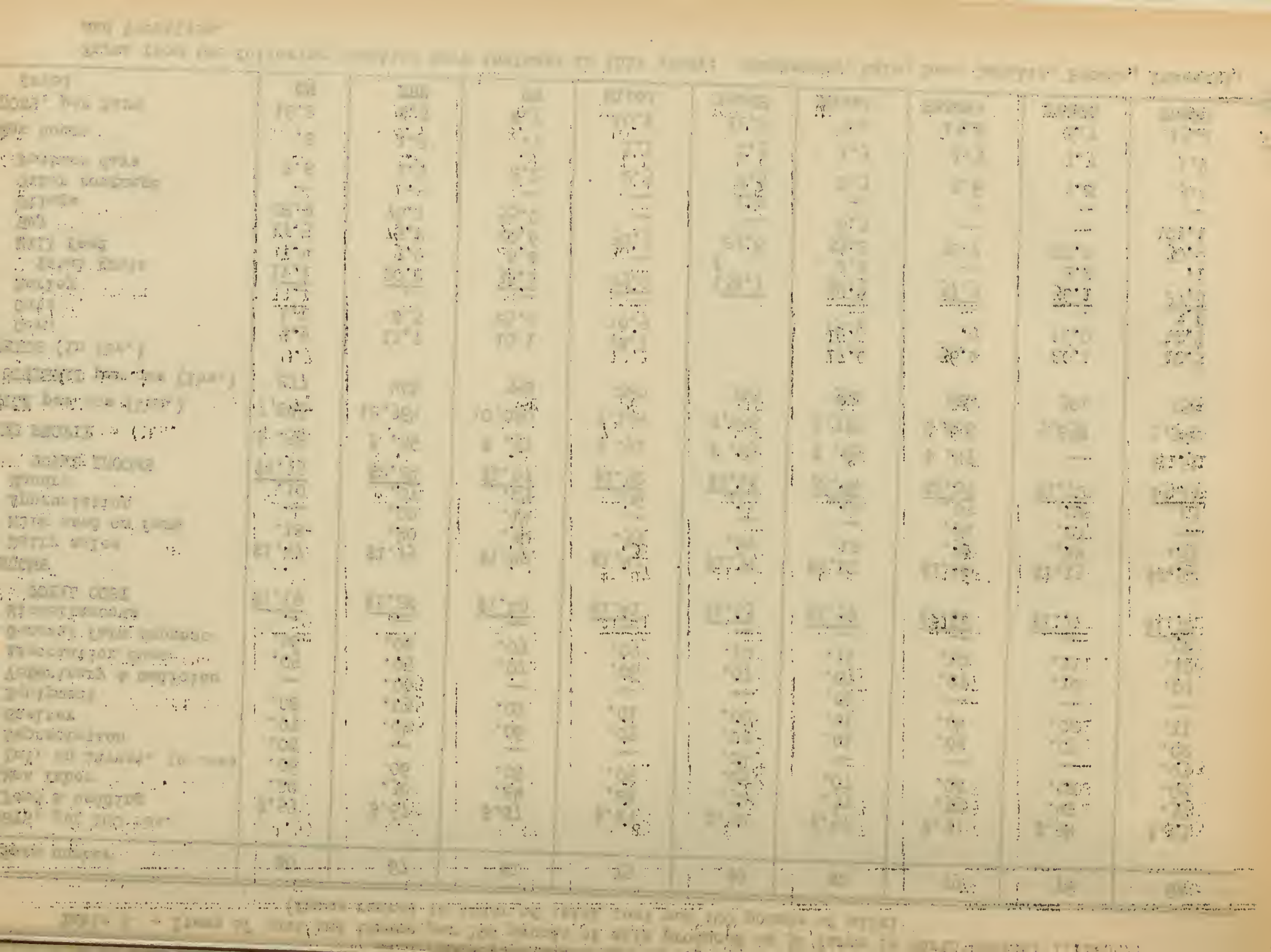
It frequently happens that a dairyman keeps his costs per cow down quite low, but the cost of each 100 pounds of milk is high due to low production per cow. Since most farmers are interested in keeping the cost of producing 100 pounds of milk as low as possible, the data are shown upon that basis in Table 2, with the data for the farms of low cost given first. This table shows the items of cost and income and the quantity of feed required for each 100 pounds of milk produced regardless of production per cow, so it is easier to compare some items than in Table 1.

The cost of producing milk is probably lower on the farms shown in these tables than the general average because these men have been selected. In the first place, the farmer had to belong to a Dairy Herd Improvement Association so that a record of the quantity and value of feed fed and milk produced was available, and besides that the farmer had to keep a financial record on the entire farm.

Table 2. - Items of cost and income per 100 pounds of milk produced on 32 farms in North Central Illinois
(Farms ranked in order of total cost per 100 pounds of milk)

Farm number	80	67	81	75	90	82	79	76	68
COSTS, per 100 lbs.									
Feed & bedding	$.59	$.67	$.87	$.83	$.90	$.97	$.97	$.94	$.93
Man labor	.20	.30	.24	.28	.32	.33	.33	.42	.35
Int. on invest. in cows	.06	.06	.06	.05	.05	.07	.08	.08	.09
Depreciation	.08	--	--	--	.04	--	--	--	.03
Shelter	.07	.04	.06	.09	.03	.01	.03	.05	.02
Equipment	.08	.03	.01	.01	.02	.01	.04	.02	.11
Veterinary & medicine	--	.05	--	--	--	.02	--	--	--
Association dues	.05	.05	.07	.06	.07	.07	.07	.10	.07
General farm expense	.06	.08	.09	.09	.10	.11	.10	.11	.10
Miscellaneous	--	--	--	--	--	--	--	--	.02
TOTAL COST	$1.19	$1.28	$1.40	$1.41	$1.53	$1.59	$1.62	$1.72	$1.72
INCOME									
Dairy sales	$1.47	$1.75	$1.40	$1.47	$1.34	$2.20	$1.68	$1.13	$2.51
Milk used on farm	.18	.40	.34	.39	.69	.12	.32	.44	.59
Appreciation	--	.02	.14	--	--	--	.04	.07	--
Manure	.10	.07	.09	.06	.15	.12	.05	.08	.13
TOTAL INCOME	$1.75	$2.24	$1.97	$1.92	$2.18	$2.44	$2.09	$1.72	$3.23
NET PROFIT	$ .56	$ .96	$ .57	$ .51	$ .65	$ .85	$ .47	--	$1.51
MILK per cow (lbs.)	7,846	12,964	10,020	7,104	8,485	9,335	6,666	9,638	5,549
BUTTERFAT per cow (lbs.)	277	464	358	260	315	352	282	321	255
FEEDS (in lbs.)									
Corn	9.9	11.7	10.1	18.1		17.0	36.4	20.1	10.5
Oats	1.2	8.5	25.0	10.9		15.5	.9	16.0	12.9
Barley	--	--	--	--		--	--	--	3.6
Total grain	11.1	20.2	35.1	29.0	(38.7	32.5	37.3	36.1	27.0
Mill feed	4.4	7.0	8.8	--	(	2.8	--	2.2	.1
Hay	17.5	5.2	20.6	30.3	27.6	33.2	32.7	22.0	30.0
Silage	22.9	76.1	55.0	--	--	6.3	--	--	101.1
Other roughage	--	--	--	--	1.8	--	--	--	--
Pasture days	2.8	1.5	2.2	2.3	2.5	2.3	2.6	1.8	3.2
Man hours	.8	1.2	.9	1.1	1.3	1.3	1.3	1.7	1.4
COWS, per farm	16.2	8.3	8.7	10.8	11.2	9.0	13.8	6.7	13.2
Breed	GH	PBH	GH	Mixed	PB&GH	Mixed	PB&GBS	PB&GH	PB&GG

Farms from the following counties were included in this study: Stephenson, Ogle, Lee, LaSalle, Peoria, Tazewell, and Vermilion.



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MILK PRODUCTION COSTS (per 100 pounds) 1927

Items of cost and income per 100 pounds of milk produced on 32 farms in North Central Illinois

(Farms ranked in order of total cost per 100 pounds of milk)

Farm number	65	87	66	58	64	84	83	89	85
COSTS, per 100 lbs.									
Feed & bedding	$.99	$.83	$.94	$1.06	$1.00	$1.02	$1.05	$1.12	$1.23
Man labor	.32	.27	.42	.41	.29	.24	.36	.47	.31
Int. on invest. in cows	.07	.07	.14	.07	.08	.09	.07	.06	.06
Depreciation	.13	.27	--	--	.20	.07	.09	--	.04
Shelter	.06	.11	.04	.05	.06	.06	.07	.01	.05
Equipment	.02	.01	.04	.02	.05	.14	.06	.02	.02
Veterinary & medicine	--	--	--	.02	--	.05	--	.01	--
Association dues	.03	.11	.10	.07	.04	.06	.05	.05	.07
General farm expense	.11	.09	.11	.12	.10	.10	.11	.13	.12
Miscellaneous	--	.02	--	--	--	--	--	--	--
TOTAL COST	$1.73	$1.78	$1.79	$1.82	$1.82	$1.83	$1.86	$1.87	$1.90
INCOME									
Dairy sales	$1.22	$1.96	$1.39	$1.64	$1.35	$1.35	$1.75	$1.80	$1.67
Milk used on farm	.54	.11	.83	.36	.42	.42	.29	.80	.33
Appreciation	--	--	.02	.06	--	--	--	.10	--
Manure	.14	.05	.16	.22	.20	.09	.05	.09	.11
TOTAL INCOME	$1.90	$2.12	$2.40	$2.28	$1.97	$1.86	$2.09	$2.79	$2.11
NET PROFIT	$ .17	$ .34	$ .61	$ .46	$ .15	$ .03	$ .23	$ .92	$ .21
MILK per cow (lbs.)	10,084	7,826	7,739	9,104	7,037	10,205	9,182	6,585	8,112
BUTTERFAT per cow (lbs.)	311	301	259	300	246	355	319	303	393
FEEDS (in lbs.)									
Corn	13.5	8.5	14.3	.2	--	28.7	18.4		21.8
Oats	6.8	8.1	13.8	4.9	5.3	4.9	23.9		15.2
Barley	--	--	1.6	16.0	11.1	--	--		1.6
Total grain	20.3	16.6	29.7	21.1	16.4	33.6	42.3	(42.8	38.6
Mill feed	3.0	8.0	.5	8.2	5.3	5.8	5.8	(	4.5
Hay	25.2	8.5	16.5	28.3	32.9	16.2	54.3	17.0	40.0
Silage	74.0	33.9	84.9	71.7	55.7	58.5	13.2	84.6	63.7
Other roughage	16.3	--	--	--	--	--	--	--	--
Pasture days	1.4	2.4	2.0	1.8	2.7	1.9	1.0	3.3	2.6
Man hours	1.3	1.1	1.7	1.6	1.1	1.0	1.1	1.9	1.2
COWS, per farm	11.9	4.3	8.7	10.2	26.5	11.2	13.9	10.8	11.0
Breed	PB&GH	PB&GBS	PBH	PB&GH	PB&GH	PB&GH	PB&GH	Mixed	Mixed

Farms from the following counties were included in this study: Stephenson, Ogle, Lee, LaSalle, Peoria, Tazewell, and Vermilion.

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Continued

MILK PRODUCTION COSTS (per 100 pounds) 1927

Items of cost and income per 100 pounds of milk produced on 32 farms in North Central Illinois

(Farms ranked in order of total cost per 100 pounds of milk)

Farm number	78	63	88	59	86	74	62	69
COSTS, per 100 lbs.								
Feed & bedding	$1.13	$.99	$.87	$1.01	$1.24	$1.20	$1.29	$1.23
Man labor	.35	.53	.80	.62	.47	.51	.48	.63
Int. on invest. in cows	.10	.08	.07	.06	.09	.05	.08	.07
Depreciation	.14	.12	--	--	--	.14	.01	--
Shelter	.03	.05	.03	.10	.08	.04	.13	.03
Equipment	--	.07	.02	.01	.02	.01	.03	.03
Veterinary & medicine	.02	--	--	.02	--	--	--	--
Association dues	.05	.05	.12	.09	.07	.08	.07	.10
General farm expense	.12	.12	.13	.13	.13	.14	.14	.15
Miscellaneous	--	--	--	.01	--	--	--	--
TOTAL COST	$1.94	$2.01	$2.04	$2.05	$2.10	$2.17	$2.23	$2.24
INCOME								
Dairy sales	$2.29	$1.27	$1.78	$1.21	$2.05	$1.74	$1.86	$1.75
Milk used on farm	.12	.44	.57	.40	.17	.33	.34	.54
Appreciation	--	--	.03	.18	.08	--	--	.05
Manure	.13	.18	.10	.11	.13	.04	.19	.12
TOTAL INCOME	$2.54	$1.89	$2.48	$1.90	$2.43	$2.11	$2.39	$2.46
NET PROFIT	$ .60	$-.12	$ .44	$-.15	$ .33	$-.06	$ .16	$ .22
MILK per cow (lbs.)	6,256	6,308	7,155	8,218	8,486	7,403	6,553	5,973
BUTTERFAT per cow (lbs.)	243	205	316	275	308	318	284	272
FEEDS (in lbs.)								
Corn	15.0	6.6	23.5	8.5	14.9	16.3	--	13.4
Oats	5.1	7.7	4.2	8.8	14.8	23.0	9.6	14.6
Barley	--	4.6	--	2.2	--	3.1	12.3	--
Total grain	20.1	18.9	27.7	19.5	29.7	42.4	21.9	28.0
Mill feed	7.1	2.6	--	3.3	16.4	.3	7.7	2.0
Hay	9.8	19.2	20.0	27.3	17.4	22.6	23.6	29.3
Silage	47.9	60.7	90.6	92.7	81.0	66.2	115.4	73.9
Other roughage	--	1.8	--	--	--	--	--	--
Pasture days	2.4	3.4	2.1	2.3	2.5	2.4	2.4	3.1
Man hours	1.4	2.2	3.2	2.5	1.9	2.0	1.9	2.5
COWS, per farm	22.6	23.1	8.1	8.9	8.2	7.6	15.9	10.0
Breed	PB&GBS	PB&GH	Mixed	Mixed	GH	PB&GG	PB&GBS	PB&GG

Farms from the following counties were included in this study: Stephenson, Ogle, Lee, LaSalle, Peoria, Tazewell, and Vermilion.

Continued

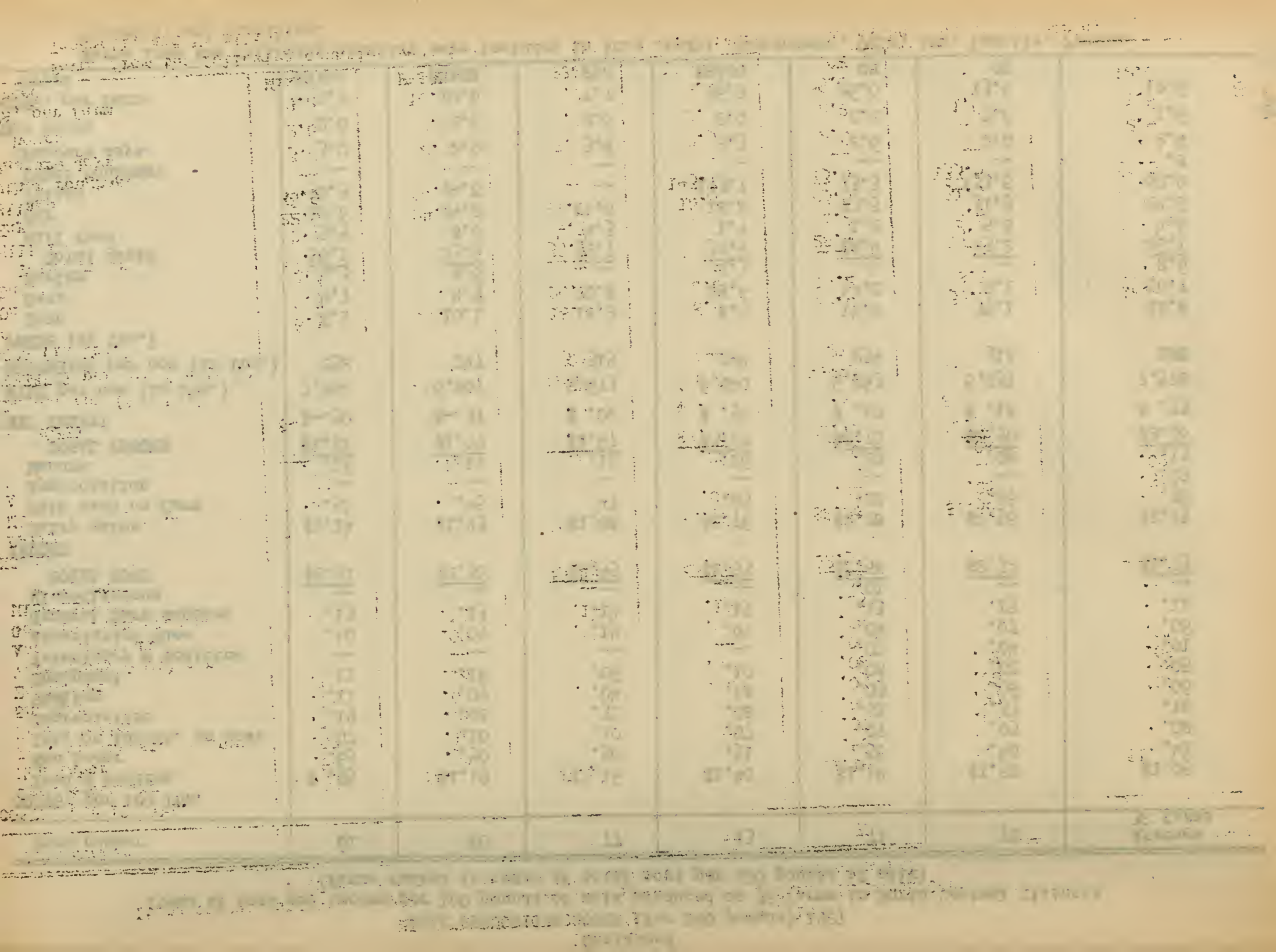
MILK PRODUCTION COSTS (Per 100 pounds) 1927

Items of cost and income per 100 pounds of milk produced on 32 farms in North Central Illinois

(Farms ranked in order of total cost per 100 pounds of milk)

Farm number	61	60	77	73	71	72	Average 32 farms
COSTS, per 100 lbs.							
Feed & bedding	$ .95	$1.19	$1.16	$1.40	$1.14	$1.52	$1.05
Man labor	.65	.50	.50	.51	.56	.40	.41
Int. on invest. in cows	.07	.10	.10	.07	.07	.09	.08
Depreciation	.19	.08	.31	.08	.51	.37	.10
Shelter	.11	.09	.04	.18	.03	.06	.06
Equipment	.11	.18	.06	.10	.08	.02	.05
Veterinary & medicine	--	--	--	--	.01	.04	.01
Association dues	.10	.09	.14	.04	.04	.07	.06
General farm expense	.13	.13	.14	.15	.13	.15	.11
Miscellaneous	--	--	--	--	.01	--	--
TOTAL COST	$2.31	$2.36	$2.45	$2.53	$2.58	$2.72	$1.93
INCOME							
Dairy sales	$1.14	$1.43	$1.88	$2.76	$2.28	$2.56	$1.75
Milk used on farm	.51	.45	.47	.05	.22	.26	.36
Appreciation	--	--	--	--	--	--	.02
Manure	.16	.11	.12	.26	.20	.08	.13
TOTAL INCOME	$1.81	$1.99	$2.47	$3.07	$2.70	$2.90	$2.26
NET PROFIT	$-.50	$-.37	$ .02	$ .54	$ .12	$ .18	$ .33
MILK per cow (in lbs.)	7,252	6,807	5,673	6,640	6,863	6,837	7,578
BUTTERFAT per cow (in lbs.)	252	247	319	294	234	318	288
FEEDS (in lbs.)							
Corn	6.1	10.1	18.9	8.5	14.2	35.1	12.8
Oats	4.7	4.9	20.8	28.6	14.2	8.1	10.7
Barley	5.3	8.6	--	2.3	--	--	2.6
Total grain	16.1	23.6	39.7	39.4	28.4	43.2	26.1
Mill feed	5.9	8.6	4.3	1.4	1.2	5.6	4.6
Hay	22.6	24.2	21.0	18.2	23.5	31.9	24.6
Silage	36.9	94.8	--	143.7	73.3	133.5	62.0
Other roughage	--	--	--	--	--	--	.8
Pasture days	3.0	2.9	3.8	2.3	2.6	2.0	2.4
Man hours	2.6	2.0	2.0	2.0	2.2	1.6	1.6
COWS, per farm	9.2	10.6	7.7	26.9	26.0	13.4	12.6
Breed	Mixed	PB&GH	PBJ	PB&GG	GH	GG	

Farms from the following counties were included in this study: Stephenson, Ogle, Lee, LaSalle, Peoria, Tazewell, and Vermilion.



FIND YOUR WEAK POINTS

The numbers between the lines across the middle of the page are the approximate averages for all farms in the factors named at the top of the page. By drawing a line across each column at the number measuring the efficiency of your dairy in that factor, you can compare your efficiency with that of the other dairymen.

Total cost per 100 lbs.	Feed cost per 100 lbs.	Feed cost per cow	Depreciation per cow	Total cost per cow	Total income per cow	Net profit per cow	Milk production per cow	Butterfat production per cow	Hours labor per cow	Hours labor per 100 lbs.	Number cows
$ 1.35	--	$50	--	$105	$232	$85	10,580	378	63	1.0	19
1.45	$ .55	55	--	112	222	75	10,080	363	73	1.1	18
1.55	.65	60	--	119	212	65	9,580	348	83	1.2	17
1.65	.75	65	$ 1.85	126	202	55	9,080	333	93	1.3	16
1.75	.85	70	3.85	133	192	45	8,580	318	103	1.4	15
1.85	.95	75	5.85	140	182	35	8,080	303	113	1.5	14
1.95	1.05	80	7.85	147	172	25	7,580	288	123	1.6	13
2.05	1.15	85	9.85	154	162	15	7,080	273	133	1.7	12
2.15	1.25	90	11.85	161	152	5	6,580	258	143	1.8	11
2.25	1.35	95	13.85	168	142	- 5	6,080	243	153	1.9	10
2.35	1.45	100	15.85	175	132	-15	5,580	228	163	2.0	9
2.45	1.55	105	17.85	182	122	-25	--	213	173	2.1	8
2.55	--	110	19.85	189	112	-35	--	198	183	2.2	7

SUMMARY

In the whole milk producing area near Chicago where nearly all the cows are the same breed and conditions are quite similar, a study was made of the effect of production per cow upon costs, income, profit and various other items. (See Tables 3 and 3a). In this study the farms were divided into five or six groups according to the production per cow. These two tables and Figure 1 are really a summary of the data and are included in this report for the benefit of the dairymen outside of the whole milk area.

There is a difference of over 150 pounds of butterfat and over 4,000 pounds of milk per cow between the high and low producing groups in Table 3. The feed cost per cow is almost $30 higher and the total cost over $50 higher per cow in the high producing group than in the lower, but the income is over $95 higher. Consequently there was a profit of $65 per cow in that group and only $21 in the low group. It seems that the depreciation per cow tends to be more on those of high production, even though the depreciation is much lower on the highest producing group than some of the other groups.

In Table 3a where the farms have been grouped according to milk production we see a close relationship existing between the cost per 100 pounds and the production per cow. The feed cost per 100 pounds of milk is 26 cents lower in the group of high producing cows than in the low producing group. In the total cost per 100 pounds of milk produced there is 51 cents difference in the two groups. While the feed cost per cow is $32 more in the high producing group and other expenses $24 more the highest producing cows produced 100 pounds of milk much cheaper than those of any other group.

There seems to be a marked tendency for the farms with high producing cows to earn a higher percent of interest on the entire farm investment than those with lower producing cows. This is to be expected because a man who is a good dairyman would probably be a good farmer in many other respects.

SUMMARY

Table 3.-Results of cost of production studies on 57 dairy herds grouped according to butterfat production per cow, showing the cost, income, and profit per cow and per 100 pounds of milk

Butterfat production per cow (lbs.)	Average production for group		Average feed cost per cow	Average total cost per cow	Average total income per cow	Average net profit per cow	Average depreciation per cow	Average feed cost per 100 lbs.	Average total cost per 100 lbs.	Average rate earned on farm investment	Average number cows per farm	Number farms in group
	Milk (lbs.)	B. F. (lbs.)										
Over 350	10,876	391	$115.03	$209.59	$275.39	$65.80	$ 10.18	$1.05	$1.92	9.00%	20.0	7
325-350	9,410	331	103.41	192.11	247.92	55.81	18.80	1.10	2.05	7.26	17.7	7
300-325	8,900	311	97.29	183.70	232.54	48.84	16.28	1.10	2.06	5.46	15.8	6
275-300	7,949	284	95.12	176.70	219.34	42.57	12.11	1.21	2.25*	5.01	20.2	13
250-275	7,358	259	88.70	161.71	191.41	29.70	10.10	1.20	2.19	4.62	22.9	10
Under 250	6,571	234	85.56	158.53	179.77	21.24	9.74	1.30	2.41	3.38	18.7	14

Table 3a.-Same data as Table 5 with herds grouped according to milk production per cow

Milk production												
Over 10,000	11,114	394	$117.78	$213.63	$279.95	$66.32	$ 9.43	$1.05	$1.91	9.53%	21.2	6
9,000-10,000	9,468	329	102.17	191.27	248.39	57.12	16.63	1.08	2.02	6.88	16.5	10
8,000-9,000	8,454	296	97.10	180.86	217.80	36.94	16.25	1.15	2.14	4.79	20.0	12
7,000-8,000	7,503	264	90.42	166.49	192.11	25.62	11.37	1.21	2.22	4.22	21.4	13
Under 7,000	6,515	240	85.33	157.46	191.61	34.15	8.10	1.31	2.42	4.18	18.8	16
Average	8,155	288	95.61	177.03	213.51	36.48	12.91	1.17	2.17	5.00	19.5	

*The cost per 100 pounds of milk is high in this group because two of the herds produced especially high testing milk and had a high cost.

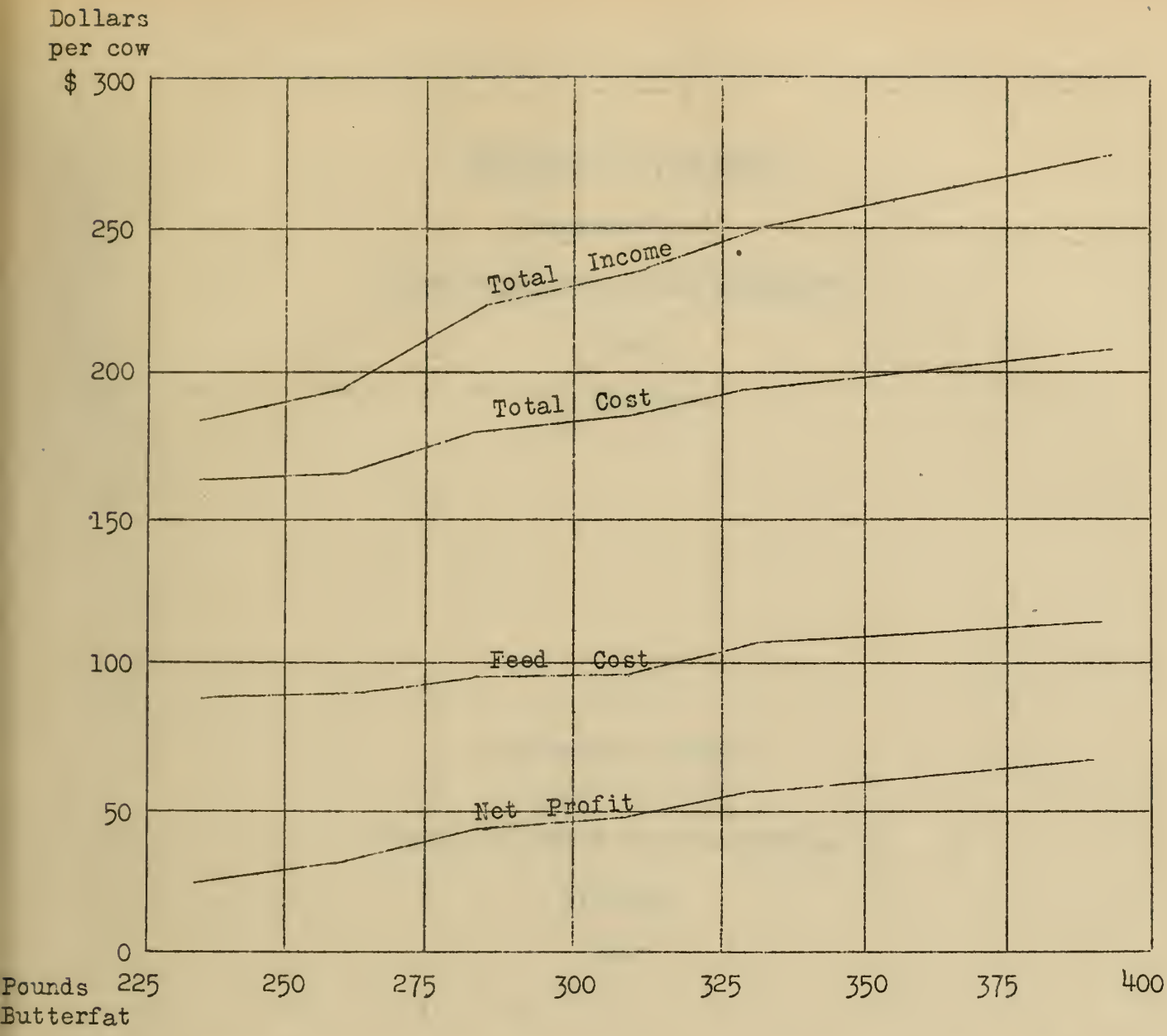
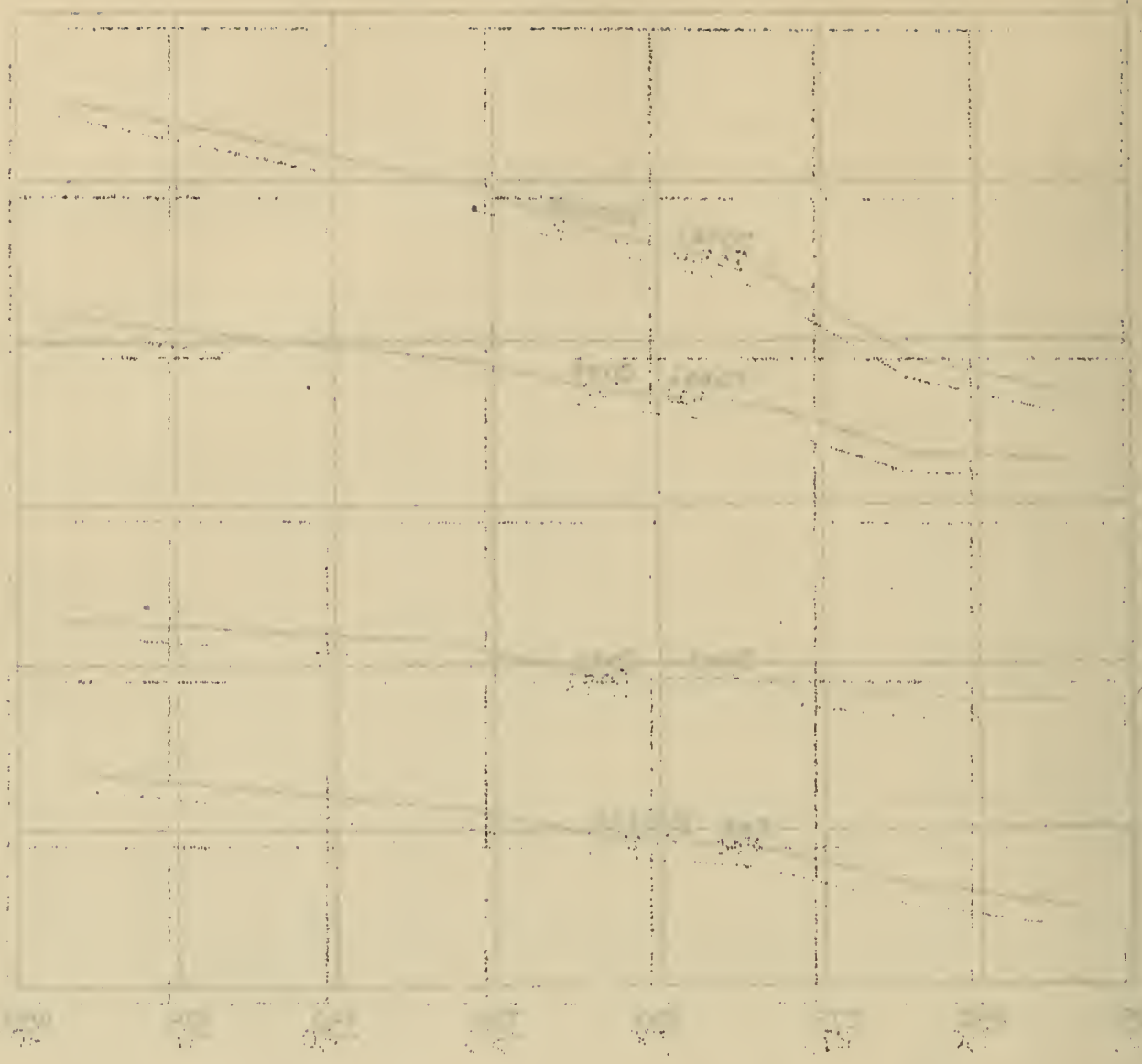


Figure 1.-Relation of Production per Cow to Cost, Income and Profit.

In Figure 1 we have plotted the cost, income, and profit of the five groups of farms grouped according to their butterfat production per cow. This may show the tendency in each of the items more clearly than the foregoing tables.



UNIVERSITY OF ILLINOIS

Departments of

Farm Organization and Management

and

Horticulture

Preliminary Report

Results of Fruit Cost Accounting in Illinois 1927

Urbana, Illinois

June, 1928

Results of Fruit Cost Accounting in Illinois, 1927

By H. C. M. Case, W. A. Ruth, and H. A. Berg

Since 1925 a number of fruit and vegetable growers in seven southern Illinois counties - Marion, Jefferson, Williamson, Johnson, Jackson, Union, and Pulaski - have cooperated with the Department of Farm Organization and Management and the Department of Horticulture in a study of: (1) The cost of developing an orchard to maturity; (2) the annual cost of growing and harvesting fruits and vegetables; (3) the factors causing variations in cost from year to year and from farm to farm during the same year; and (4) profitable practices which are not generally used by orchardists and vegetable growers.

The cooperators are provided with a book (Illinois Cost Accounting Record for Fruits and Vegetables) which provides for the posting of complete cost data and for the recording of information about practices followed and seasonal conditions affecting production. Records are kept on specific blocks of fruit rather than on the entire orchard in this project. Each cooperator is visited at least twice during the year by a representative of the departments concerned.

Up to the present time, a total of fifty-seven yearly records on peaches and thirty-eight yearly records on apples has been obtained. In addition, a few records have been kept on bush fruits and vegetables.

The considerable variation in practices, results, and costs found between different orchards during the same year and the same orchard during different years makes it essential that this investigation, as all studies of the cost of producing an agricultural product, be continued over a period of years and include a large number of records if represen-

tative data are to be obtained.

It is the plan to compile preliminary reports annually presenting the information accumulated to date. This report presents some of the data collected on apple and peach production during the first three years of this study. The total number of records is still too small to permit the data being taken as conclusive.

Table 1 shows the distribution by operations of the total number of hours of man labor per acre of apple trees. The data are given for trees five years of age or less and for trees over five years old. Table II shows the total amount of horse labor used per acre on these same blocks distributed by months.

Table III presents a comparative financial statement on each of the thirteen apple blocks upon which accounts were kept during 1927. The total receipts, total cost, and net profit or loss per acre for that year, as well as similar information for the years 1925 and 1926 on those blocks upon which the figures have been obtained are shown. In addition to the data here presented, records have been secured on some blocks for the year 1925, the year 1926, or both, on which accounts were not kept during 1927.

Tables IV, V, and VI present data on the production of peaches similar to Tables I, II, and III, respectively, on apple production, with the exception that the distribution of man labor and horse labor is given for trees of each age up through five years. All orchards with trees over five years old were considered as one group. As with apples, a number of records were obtained in 1925 and 1926 upon blocks upon which no record was kept in 1927.

The fourth year of the project is now in progress with a further increase in the number of cooperators. The desired information is being ob-

tained. A complete analysis and interpretation will be made when the number of records available is sufficiently large to justify more definite conclusions. To facilitate this interpretation it is necessary that the individual cooperators record currently in detail the seasonal conditions affecting the production of the orchards being studied.

Table I.

Hours of Man Labor Used per Acre of Apple Trees
1925, 1926, 1927

	Trees 5 yrs. old or less	Trees over 5 yrs. old
Number of records	14	19
Cultivating	4.4	1.3
Spraying	.8	5.7
Pruning	1.5	3.2
Miscellaneous	8.9	4.4
Total to harvesting	15.6	14.6
Picking	.1	11.1
Sorting and packing	---	4.1
Total man hours	15.7	29.8
Apples harvested per acre	.15 bu.	39.4
Number of orchards bearing	3	17

Table II

Amount and Distribution by Months of Horse Labor Used

per Acre of Apple Trees*

1925, 1926, 1927

	Trees 5 yrs. old or less	Trees over 5 yrs. old
Number of records	14	19
January		
February	.1	.4
March	.7	1.7
April	3.3	1.9
May	3.3	6.2
June	6.3	2.5
July	2.2	4.2
August	.1	.4
September	1.3	.7
October	.2	.4
November	.3	.1
December	.9	.1
Total	18.7	18.6
Total number actual horse hours	13.1	14
Total number actual tractor hours	.9	.8

*In the distribution of labor by months the tractor hours were reduced to horse hours on the basis of one tractor hour equaling six horse hours.

Table III. Financial Statement on 13 Apple Orchards for 1927 and Summary of Results for 1925 and 1926

Block number	39	38	20	30	19	18	17	34	22	21	40	24	44
Acres	7.6	26	7	12	7	5	10	20	10	6.5	5	4	8
Date set out	F-1925	1924	F-1922	F-1922	1921	S-1921	1920	(1919 (1921	S-1918	S-1918	S-1918	S-1916	1911
Number of trees	175	911	299	324	500	275	375	---	500	700	212	130	550
Bushels picked	--	--	--	--	3	10	5	40	--	9	442.5	459	1536.75
RECEIPTS													
Cash receipts	$ -	-	-	680	6.75	18	-	69.83	-	24	219	701.05	3065.48
Value of product not sold	-	45(1)	100(2)	-	-	-	9.00	1.75	-	-	797.13	162.50	2
TOTAL RECEIPTS	$ -	45	100	680	6.75	18	9.00	71.58	-	24	1016.13	863.55	3067.48
EXPENSES													
Bldg. and equip. charge	$ 2	4.12	-	46	1.41	1.75	5.43	4.20	3.45	20.85	19.95	5.34	25.12
Spray material	.25	1.50	-	126.72	2.34	4.00	1.00	6.58	4.20	11.97	28.50	34.62	31.27
Fertilizer	-	12.88	-	60	9.12	-	10.00	13.20	-	1.25	19.60	17.08	-
Packing material	-	-	-	32.75	.60	-	-	6.15	-	1.71	11.81	24.95	258.34
Intercrop expense	12.75	-	4		-	-	-	-	-	-	-	-	-
Marketing expense	-	-	-		-	-	-	-	-	4.21	-	-	-
Miscellaneous expense	10.34	48	3.14	26.70	6.30	3.50	5	14.70	6.50	2.93	27.40	32.80	4.80
Man labor cost	17.13	21.47	11.20	358.41	20.50	9.00	6.40	27.25	14.20	20.28	48.40	62.60	259.50
Horse " "	4.95	5.40	6.30	60.08	8.70	6.00	13.20	9.90	3.75	11.55	14.85	16.80	86.25
Tractor cost	20.00	38.00	18.00	51.00	-	-	-	30.00	-	-	-	-	-
Truck cost	-	-	-	-	.20	-	-	-	-	.30	2.40	12.88	-
Int. on land @ 5%	22.80	58.50	35.00	60.00	17.50	12.50	20.00	40.00	20.00	32.50	12.50	10.00	24.00
TOTAL COST	$ 90.22	189.87	77.64	821.66	66.67	36.75	61.03	151.98	52.10	107.55	185.41	217.07	689.28
NET PROFIT OR LOSS - 1927	$ -90.22	-144.87	22.36	-141.66	-59.92	-18.75	-52.03	-80.40	-52.10	-83.55	830.72	646.48	2378.20
NET PROFIT OR LOSS - 1926	$-106.37	-252.84	-11.81	-289.90	-66.49	-36.39	-66.23	-159.85	21.16	-95.92	-	816.12	-
NET PROFIT OR LOSS - 1925	$ --	-	-27.45	-495.93	-111.76	76.29	-97.57	-	-70.76	77.13	-	551.43	-
1927 Total receipts per acre	$ -	1.73	14.28	56.67	.96	3.60	.90	3.58	-	3.69	203.23	215.89	383.43
" cost " "	11.87	7.30	11.09	68.47	9.52	7.35	6.10	7.60	5.21	16.55	37.08	54.27	86.16
Net profit " "	-	-	3.19	-	-	-	-	-	-	-	166.15	161.62	297.27
" loss " "	11.87	5.57	-	11.80	8.56	3.75	5.20	4.02	5.21	12.86	-	-	-
1926 Total receipts per acre	$ 13.16	2.31	13.69	11.29	2.03	4.85	-	1.53	19.64	4.56		292.64	
" cost " "	27.15	12.03	15.37	35.45	11.53	12.13	6.62	9.52	17.52	19.32		88.61	
Net profit " "	-	-	-	-	-	-	-	-	2.12	-		204.03	
" loss " "	13.99	9.72	1.68	24.16	9.50	7.28	6.62	7.99	-	14.76		-	
1925 Total receipts per acre	$		29.25	-	6.60	26.40	-		2.53	36.11		183.90	
" cost " "			33.17	41.33	22.56	11.14	9.76		9.60	24.25		46.04	
Net profit " "			-	-	-	15.26	-		-	11.86		137.86	
" loss " "			3.92	41.33	15.96	-	9.76		7.07	-		-	

(1) Asparagus roots.
(2) Cowpea hay.

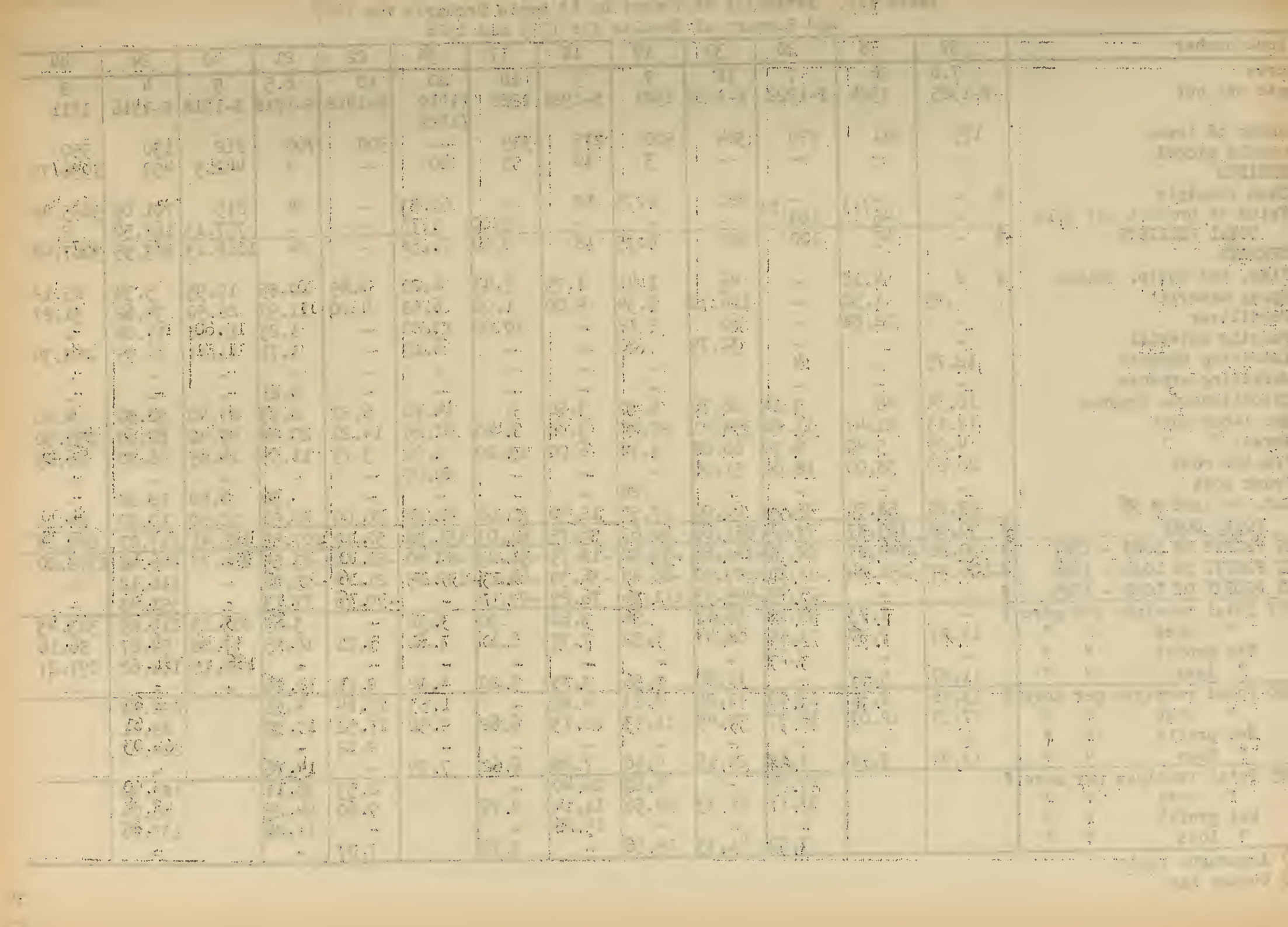


Table IV

Hours of Man Labor per Acre of Peach Trees

1925, 1926, 1927

	New Trees	Trees 1 Yr. Old	Trees 2 Yrs. Old	Trees 3 Yrs. Old	Trees 4 Yrs. Old	Trees 5 Yrs. Old	Trees over 5 Yrs. Old
Number of records	6	6	6	7	4	7	16
Preparing ground	4.5	---	---	---	---	---	---
Setting trees	11.6	---	---	---	---	---	---
Cultivating	7.4	12.3	6.2	5.9	13.9	10.7	7.3
Spraying	.3	.6	3.8	6.1	11.8	15.9	12.7
Pruning	1.8	1.6	2.8	3.5	11.5	9.1	10.2
Miscellaneous	7.4	7.3	12.6	3.8	9.6	24.4	10.9
Total to harvesting	33.0	21.8	25.4	19.3	46.8	60.1	41.1
Picking	---	---	.4	1.7	26.4	30.8	24.8
Sorting and packing	---	---	.3	1.0	21.4	5.2	2.4
Total man hours	33.0	21.8	26.1	22.0	94.6	96.1	68.3
Peaches harvested per acre - bushels	---	---	1.27	4.95	117.2	84.1	64.2
Number orchards bearing fruit	0	0	1	2	4	5	13

TABLE 14

[illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table V.

Amount and Distribution by Months of Horse Labor

Used per Acre of Peach Trees*

1925, 1926, 1927

	New trees	Trees 1 yr. old	Trees 2 yrs. old	Trees 3 yrs. old	Trees 4 yrs. old	Trees 5 yrs. old	Trees over 5 yrs. old
Number of records	6	6	6	7	3	6	16
January	--	--	--	.4	--	--	.9
February	.7	2.2	--	.4	2.2	1.2	1.8
March	9	.8	1.0	1.1	4.5	6.7	7.4
April	10.9	4.7	2.5	2	18.7	5.5	4.7
May	4.7	5.3	12.4	8	9.6	11.5	8.0
June	9.9	3.6	6.8	8.8	8.5	7.6	8.1
July	.5	2.5	3.5	4.9	10.9	7.7	4.5
August	--	.4	.3	.5	16.9	15.6	5.5
September	1.9	5.8	1.7	--	3.5	1.4	.4
October	.7	--	.6	--	--	--	1.4
November	.7	.4	--	2.2	--	2.3	1.1
December	1.3	--	.1	1.7	.9	.9	.6
Total	40.3	25.7	28.9	30	75.5	60.4	44.4
Total actual horse hours used	17.5	19.9	28.7	10.7	67.7	46.8	32.8
Total actual tractor hours used	3.8	1.0	.03	3.2	1.3	2.3	1.9

* In the distribution of the labor by months the tractor hours were reduced to horse hours on the basis of one tractor hour equalling six horse hours.

Table V.

Average Monthly Rainfall in Months of Above Epoch.

Years in Each Period of Record.

Table VI. Financial Statement on 25 Peach Orchards for 1927 and Summary of Results for 1925 and 1926

Block number	47	42	37	1	3	32	5	35	43	41	46	45
Acres	5	4	20	10	1	17.64	17.5	14	6	4	5	12
Date set out	S-1927	S-1927	S-1926	S-1925	S-1925	F-1925	F-1924	S-1924	F-1924	S-1924	S-1922	S-1922
Number of trees	500	269	1,822	630	110	2000	1,281	1,000	445	353	500	700
Bushels picked	-	-	-	-	-	-	158	-	-	-	354	-
RECEIPTS												
Cash receipts	$ -	-	-	-	-	-[4]	251.70	-	-	-	1,036.60	-
Value of product not sold	22.90[1]	60[2]	-	112.50[3]	-	300[4]	7.50	-	-	-	20	-
TOTAL RECEIPTS	$ 22.90	60	-	112.50	-	300	259.20	-	-	-	1,056.60	-
EXPENSES												
Bldg. and equip. charge	$ 1.00	-	22.62	20.58	.50	12	13.25	41.50	-	.25	4.38	23.04
Spray material	5.25	-	-	6.58	.90	17.50	60.60	8.14	-	2.50	26.45	18.00
Fertilizer	5.75	-	-	36.50	.81	-	50.40	-	-	9.02	22.60	24.00
Packing material	-	-	-	-	-	-	20.45	-	-	-	50.00	-
Intercrop expense	7.85	4	-	25	.50	33.60	-	-	-	-	-	10.00
Marketing expense	-	-	-	-	-	-	6.00	-	-	-	247.69	-
Miscellaneous expense	83.75	44.19	48	12.75	2.25	17.64	12.20	5.60	5.76	3.84	5.00	19.00
Man labor cost	45.90	27.87	40.20	62.00	10.10	141	182.15	4	16.77	30.05	119.05	49.70
Horse labor cost	12.75	13.95	.45	53.85	1.05	112.80	45.90	6	8.10	12.90	22.87	55.20
Tractor cost	26.00	6.88	80	-	4.50	-	88	-	8.13	10	11	-
Truck cost	-	-	-	-	-	-	-	-	-	-	-	-
Int. on land @ 5 percent	25	15	45	37.50	7.50	88.20	35	28	22.50	15	15	36
TOTAL COST	$ 213.25	111.89	236.27	254.76	28.11	422.74	513.95	93.24	61.26	83.56	524.04	234.94
NET PROFIT OR LOSS 1927	$-190.35	- 51.89	-236.27	-142.26	-28.11	-122.74	-254.75	-93.24	-61.26	-83.56	532.56	-234.94
" " " " 1926	$ -	-	-664.85	- 38.35	-18.20	-127.14	-355.05	-77.42				
" " " " 1925	$ -	-	-	104.62	-52.40		-297.75					
1927 Total receipts per acre	$ 4.58	15	-	11.25	-	17.00	14.81	-	-	-	211.32	- 19.56
" cost " "	42.65	27.97	11.81	25.47	28.11	23.96	29.37	6.66	10.21	20.89	104.81	195.78
Net profit " "	-	-	-	-	-	-	-	-	-	-	106.51	- 19.56
" loss " "	38.07	12.97	11.81	14.22	28.11	6.96	14.56	6.66	10.21	20.89	-	195.78
1926 Total receipts per acre	-	-	-	17.50	7.20	-	5.86	-				
" cost " "	-	-	33.24	21.34	25.40	7.21	26.15	5.53				
Net profit " "	-	-	-	-	-	-	-	-				
" loss " "	-	-	33.24	3.84	18.20	7.21	20.29	5.53				
1925 Total receipts per acre	-	-	-	17.85	10.80		2					
" cost " "	-	-	-	28.31	63.20		19					
Net profit " "	-	-	-	-	-		-					
" loss " "	-	-	-	10.46	52.40		17					

(1) Truck crops
(2) Cowpea hay
(3) Soybean hay
(4) Soybean hay

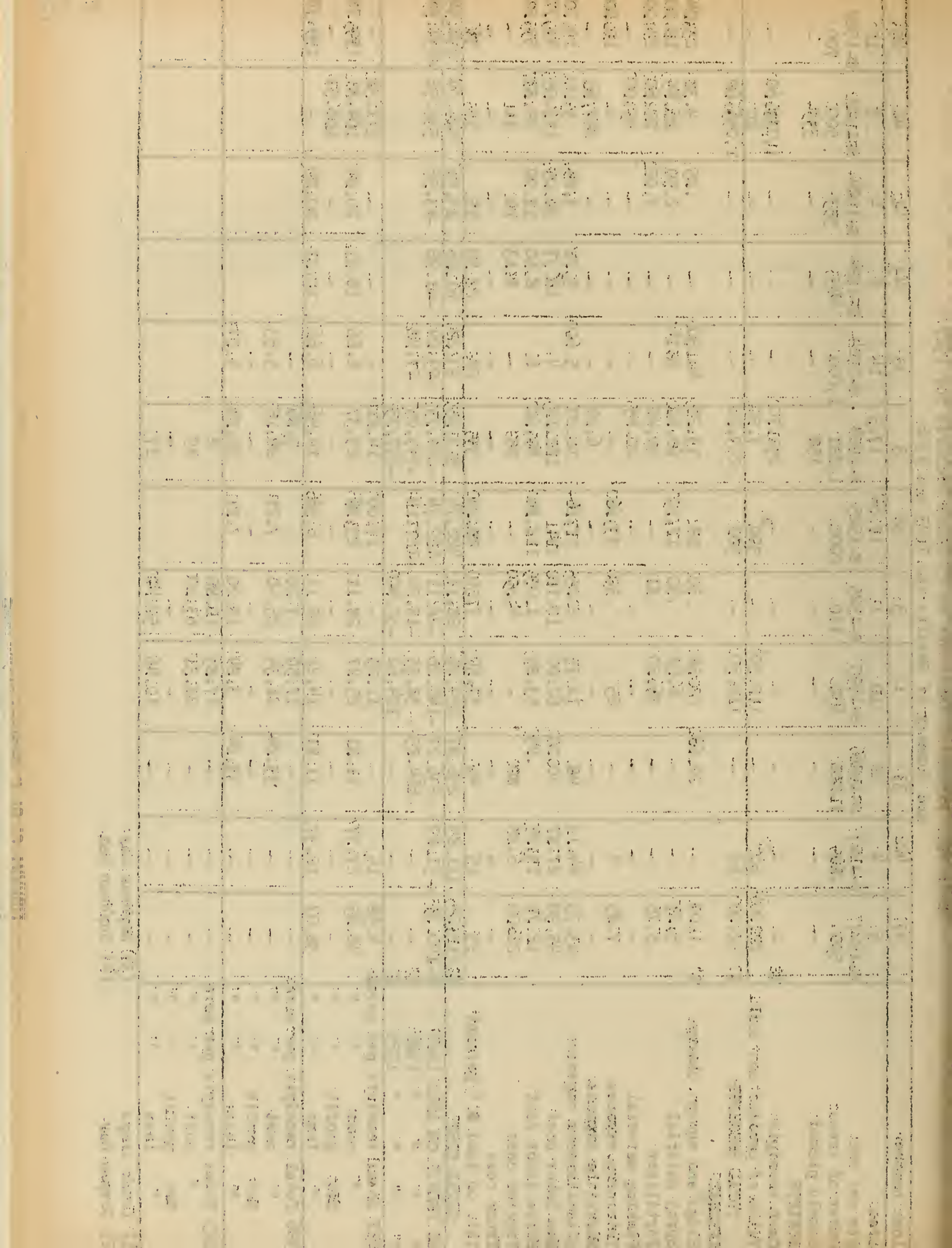


Table VI (Continued)

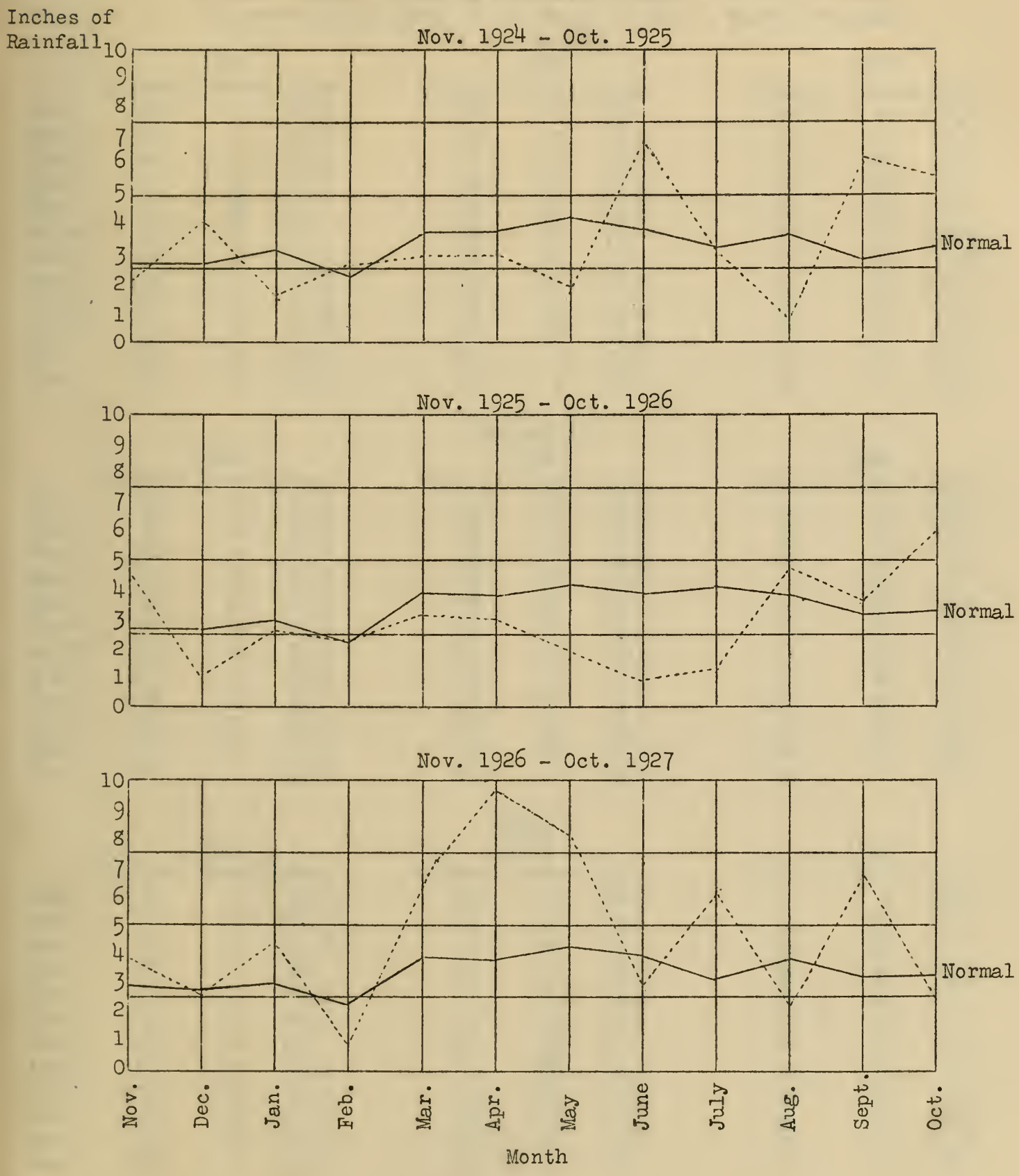
Financial Statement on 23 Peach Orchards for 1927
and Summary of Results for 1925 and 1926

Block number	6	30	8	9	10	11	12	33	13	15	50
Acres	7.5	12	9.5	16	7	6.67	2	8	10	15	20
Date set out	S-1922	F-1922	F-1921	F-1921	S-1921	F-1921	S-1920	F-1920	F-1917	1917	121-'26
Number of trees	465	972(1)	950	1000	485	550	230	730	1,000	1,300	2000
Bushels picked	600	340	1,400	1078	237	1008	4	862	1,995	62	427
RECEIPTS											
Cash receipts	$1350	680	2,750	2839.40	487.97	2778.18	-	1,263.36	3,788.05	119.64	836.18
Value of product not sold	-	-	-	40	57.25	12	10	18	265	3	35
TOTAL RECEIPTS	$1350	680	2,750	2879.40	545.22	2790.18	10	1,281.36	4,053.05	122.64	871.18
EXPENSES											
Bldg. and equip. charge	$ 18.72	46	54.43	37.45	26.40	137.65	4.90	31.60	40.25	10.47	88.40
Spray material	72.80	126.72	238.50	27.50	55.37	85.85	9.83	38.53	146.06	47.12	113.96
Fertilizer	18	60	104.50	-	37	69.60	14.14	62.80	132.20	43.20	152.90
Packing material	99	32.75	156.75	168.15	39.10	138.55	-	98.63	-	-	-
Intercrop expense	7	-	-	-	17.50	43.85	-	-	-	-	-
Marketing expense	-	-	100	-	16.10	176.73	-	84.44	-	-	-
Miscellaneous	36.75	26.70	10.45	24.32	36.80	37.10	.90	30	44	15.25	67
Man labor cost	124.05	358.41	291.40	131.97	169.50	277.38	18.37	127.08	182.25	92	91.05
Horse labor cost	36.40	60.08	48.90	12.07	85.65	123	5.55	44.10	70.05	48.30	42.90
Tractor cost	25	51	75	20	8	-	-	26	52	-	107
Truck cost	18	-	26.40	2	-	-	-	-	4.80	1.60	3.60
Int. on land @ 5 percent	37.50	60	59.37	80	35	33.33	7.50	20	30	37.50	100
TOTAL EXPENSES	$ 493.22	821.66	1,165.70	503.46	526.42	1123.04	61.19	563.18	701.61	295.44	766.81
NET PROFIT OR LOSS 1927	$ 856.78	-141.66	1,584.30	2375.94	18.80	1667.14	-51.19	718.18	3,351.44	-172.80	104.37
" " " " 1926	$ 470.09	-289.90	1,291.56	768.69	745.59	856.51	-41.65	163.21	-300.70	-251.23	
" " " " 1925	$ 189.45	495.93	-55.15	2147.95	635.88	953.12	-38.54		1,167.90	-276.14	
1927 Total receipts per acre	$ 180	56.67	289.47	179.96	77.89	418.32	5	160.17	405.30	8.18	43.56
" cost " "	65.76	68.47	122.70	31.47	75.20	168.37	30.59	70.40	70.16	19.70	38.34
Net profit " "	114.24	-	166.77	148.49	2.69	249.95	-	89.77	335.14	-	5.22
" loss " "	-	11.80	-	-	-	-	25.59	-	-	11.52	
1926 Total receipts per acre	$ 104.67	11.29	250.53	82.91	278.35	354.57	-		-	-	
" cost " "	41.99	35.45	114.57	34.86	171.84	227.68	20.83		30.07	16.75	
Net profit " "	62.68	-	135.96	48.05	106.51	126.89	-		-	-	
" loss " "	-	24.16	-	-	-	-	20.83		30.07	16.75	
1925 Total receipts per acre	$ 52.80	-	34.99	181.25	158.17	267.42	-		188.44	.80	
" cost " "	27.54	41.33	40.79	47	67.33	124.31	19.27		71.65	19.21	
Net profit " "	25.26	-	-	134.25	90.84	143.11	-		116.79	-	
" loss " "	-	41.33	5.80	-	-	-	19.27		-	18.41	

(1) Peaches are a filler crop.

Graph I

Total Monthly Rainfall at Carbondale, Illinois
(Climatological Data, U. S. Dept. of Agr., Weather Bureau)



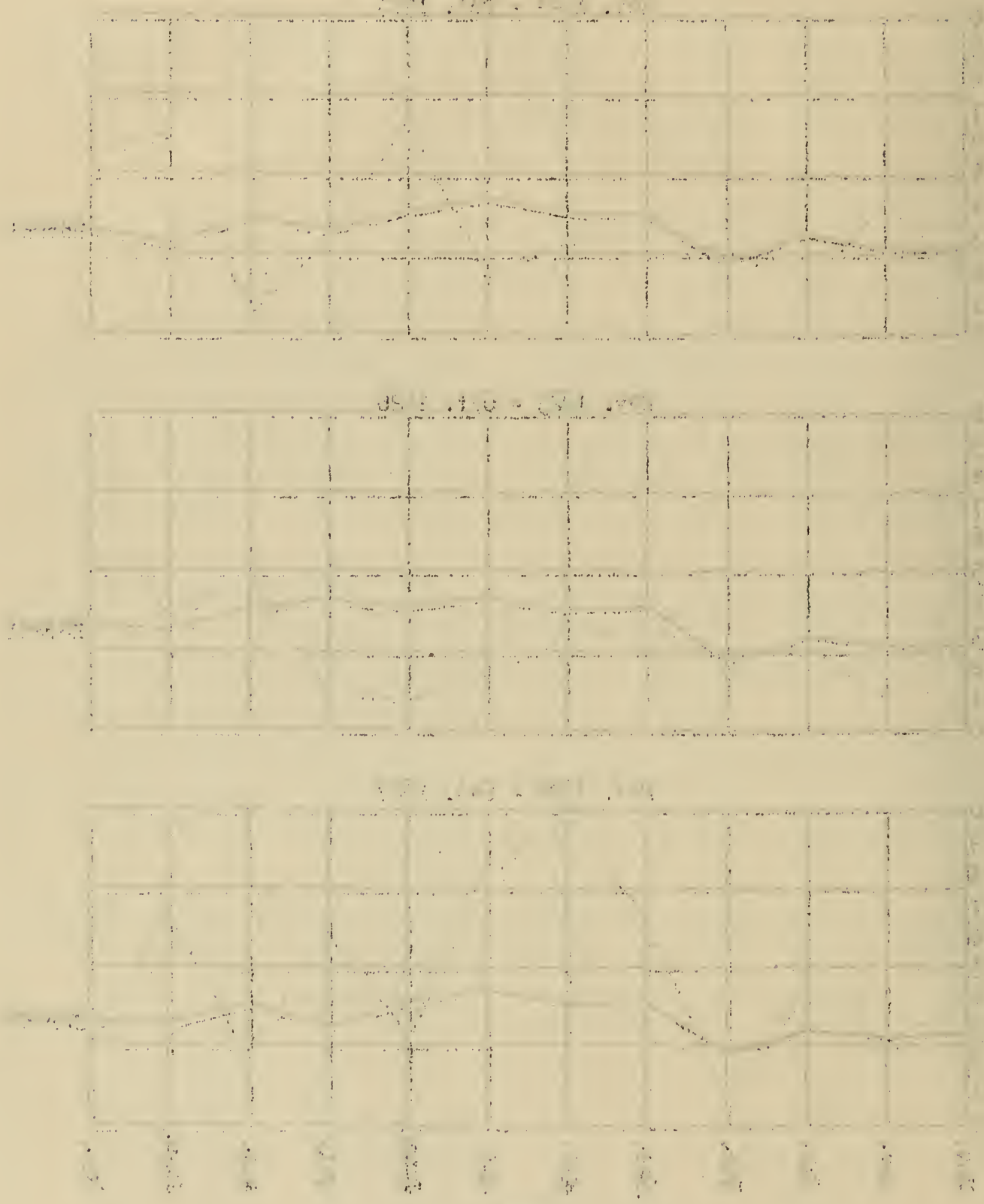


Table VII

Highest, Lowest and Average Monthly Temperatures at
Mt. Vernon, Carbondale and Cairo, Illinois,
1925, 1926 and 1927.
(Climatological Data, U. S. Dept. of Agr., Weather Bureau)

Mr. Vernon

	1925			1926			1927		
	Highest	Lowest	Mean	Highest	Lowest	Mean	Highest	Lowest	Mean
Jan.	60	2	31.8	60	-7	35	--	-4	31.4
Feb.	69	9	41.6	61	22	40.2	74	17	43.4
Mar.	80	7	48.5	77	11	39.9	75	19	47.3
Apr.	87	32	61.2	80	27	50.4	82	28	58
May	91	35	61	95	40	67.6	86	39	64.1
June	93	54	76	98	49	72	97	47	69.8
July	96	51	77.6	104	51	79.9	97	50	75.6
Aug.	100	51	76.2	101	56	77.6	90	47	70.7
Sept.	104	55	75.8	94	39	72.2	99	34	73
Oct.	78	21	51.8	89	30	58.2	89	31	61.4
Nov.	68	19	43.5	67	7	39.6	81	23	49.5
Dec.	62	-1	33.8	67	8	32.9	65	3	32.8

Carbondale

	1925			1926			1927		
	Highest	Lowest	Mean	Highest	Lowest	Mean	Highest	Lowest	Mean
Jan.	59	-6	34.7	62	-12	35.4	--	-2	34.0
Feb.	70	16	44.8	63	20	42.4	75	15	45.7
Mar.	80	8	51.4	78	17	42.1	76	18	48.6
Apr.	91	31	63.8	86	26	52.8	--	28	59.7
May	95	33	63.6	98	38	69.2	86	38	66.1
June	99	54	78.8	102	43	73.4	96	48	72.0
July	100	50	79.0	105	50	80.8	97	51	76.8
Aug.	104	53	78.0	104	55	79.4	93	46	72.1
Sept.	108	57	78.0	96	40	73.7	102	33	74.6
Oct.	83	20	52.5	90	30	59.7	92	32	62.7
Nov.	71	22	45.8	70	10	42.4	80	23	50.8
Dec.	67	0	35.4	66	- 1	25.3	68	4	35

Cairo

	1925			1926			1927		
	Highest	Lowest	Mean	Highest	Lowest	Mean	Highest	Lowest	Mean
Jan.	60	6	36.8	62	8	36.8	--	1	36.4
Feb.	70	20	44.4	62	27	43	70	23	46.9
Mar.	81	11	51.8	77	20	43	72	23	50
Apr.	88	41	65	83	29	53.9	81	39	60.6
May	95	39	64.8	92	43	68.8	85	49	68
June	95	61	80.2	94	55	74.1	94	57	73.1
July	98	60	80	101	61	80	94	59	78.2
Aug.	100	58	79.2	94	64	78.4	89	57	73.8
Sept.	104	60	78.4	90	46	74.4	96	46	75.3
Oct.	84	26	53.6	88	33	61.2	86	40	63.5
Nov.	70	26	47.2	71	24	43.2	79	29	51.9
Dec.	64	2	35.8	65	12	37.2	72	2	37

SUMMARY OF FARM SURVEY RECORDS FOR

117 FARMS IN WETHERSFIELD TOWNSHIP

HENRY COUNTY, 1927

This report includes records from nearly every farm in one township and therefore represents average conditions in that section of the state where farming conditions are similar to those of the township studied.

University of Illinois, College of Agriculture
Department of Farm Organization and Management
Cooperating with Henry County Farm Bureau

Urbana, Illinois

April, 1928

M 69

SUMMARY OF FARM SURVEY RECORDS ON 117 FARMS IN WETHERSFIELD TOWNSHIP, HENRY COUNTY, ILLINOIS FOR 1927

Prepared by H. C. M. Case and R. R. Hudelson

There were 117 farm operators in Wethersfield Township, Henry County, who gave records on their farm business for 1927 to a representative of the University of Illinois. These men earned an average of 2¼ percent on their total farm investments after allowing $720 for their own labor at farm labor wages. In addition to this wage they had such produce as was raised on the farm and consumed by the family. These items amounted to $466 a farm at farm prices on a group of 181 farms in Woodford, Tazewell, McLean, and Livingston Counties where records of the value of these things were kept.

These records from Wethersfield Township have a special significance because the farms were not selected in any way. A record was secured from practically every farm in the township. The results should show average earnings and average conditions in that part of the state for 1927.

The average investment on these 117 farms was practically $40,000 or to be exact, $39,850. This amount includes the land valued at an average of $165 an acre. Including improvements, equipment, livestock, crops and other farm property, the total value amounted to $218 an acre. Wethersfield Township is located in a good farming section of the state where improvements are good and the type of farming is well diversified including large numbers of livestock, especially hogs. Considerable numbers of cattle are also raised both of beef and dairy types. The soil of the township consists almost entirely of phases of brown silt loam. Only one small creek and its tributaries interrupt the otherwise gently rolling topography. The average size of the farms included in this survey is 183 acres, about 93 percent of which is tillable.

Transportation and market conditions are favorable since the township is crossed by paved highways 28 and 30 of the Illinois hard road system. All points in the township have a relatively short haul to Galva or Kewanee. Peoria may be reached by a drive of about 50 miles on pavement. The farm population is of mixed origin and ranks very high as to progressiveness and industry. Of the 117 farms from which records were secured 37 were owned by the operator, 54 were rented and in 26 cases the operator owned part and rented part of the land farmed. Of the 54 rented farms 37 were owned by parties with no family relationship to the tenant.

Differences between Profitable and Unprofitable Farms

The financial records on these 117 farms were classified into three equal groups. In one group were placed the records showing the highest rates earned on the investment; in the second group those showing medium returns and in the third group those which showed the lowest returns. It is interesting to study these groups from the tables on pages 4 and 5. As indicated above, the average rate earned on the total farm investment on all farms included in this study was 2.25 percent. Using the same methods of computation the third with the highest earnings averaged 6.1 percent and the low third lost an average of 1.39 percent on their investments.

We may also figure these incomes in a different way. If all operating costs except the operator's labor are taken out and 5 percent deducted for the use of the capital, we may find what is left to pay the operator for his labor and management for the year. Using this method we find that the average of these farm operators lacked $395 of making 5 percent interest on the capital invested in his business and had nothing left to pay for his labor and management. The third of the farms showing the best incomes could pay 5 percent on the invested capital and have $1,137 left to pay for the operator's labor and management. The low third lacked $1,890 per farm of making 5 percent interest with no allowance for the operator's labor and management. It is evident from these figures that there was a difference of $3,027 a farm in labor and management wage between the high and low thirds.

If we examine the figures on pages 4 and 5 to see what caused this large difference in incomes we find indications that it is due to a number of different things. The average size of the farm, percentage of tillable land and the value per acre were practically the same for both groups. The number of acres in corn, oats, and wheat were also about the same. There were no evident natural advantages of the more profitable farms over the less profitable ones. It appears that the chief advantages of the more profitable farms were higher crop yields, greater efficiency with livestock and greater labor efficiency. The higher net earnings of the more successful third were due more to higher average gross incomes than to lower expenses. The most successful third of these farms had an average gross income of $4,646 a farm which was twice that of the third with the lowest incomes. The most successful group also had some advantage in lower operating costs. They got along with an average of $549 less operating costs, including $131 less family labor, than their less successful neighbors.

The higher gross incomes of the 39 most profitable farms were derived chiefly from larger grain and hog incomes with slightly larger returns from dairy and poultry sales. The two groups had about the same income from cattle. The larger returns from grain are evidently due to larger yields and to more efficient feeding. The more profitable farms averaged 10 bushels more corn per acre and 5 bushels more oats. The acreage of wheat was too small to be of any importance. The difference in yields per acre amounted to 878 bushels of corn and 197 bushels of oats for each farm which figured at December farm prices of 70 cents for corn and 45 cents for oats amounted to a value of $703 in favor of the more profitable farms. Advantages in yield of other crops will account for some additional difference. Apparently, however, a considerable part of the larger income from crops on the more successful farms is due to the fact that more livestock was produced with less feed than on farms of the low income group. This left still more crops to sell on the more successful farms.

The 39 most profitable farms show about a half more income from a given investment in livestock than do the 39 least profitable farms. This is an important item in a section like Wethersfield township where the average investment in livestock on these 117 farms amounted to $13.50 an acre. The average investment in livestock was $2.20 an acre smaller on the 39 most profitable farms than on the low income group, but the more profitable farms received $3.30 an acre more income from livestock.

Labor is the largest item of operating cost on most farms and the 39 most profitable farms had some advantage in lower labor costs. The difference amounted to $1.69 an acre or $287 a farm in favor of the more successful group. Of this difference $156 was for hired labor and $131 for family labor. The most successful group worked about 20 more crop acres per man than the least successful group and in addition grew larger yields of crops and produced livestock more efficiently.

Henry County, Wethersfield Township - 1927

Factors helping to analyze the farm business	Average of 117 farms	39 most profitable farms	39 least profitable farms
Rate earned	2.25%	6.11%	-1.39%
Labor and management wage	$ -395	$1,137	$ -1,890
Size of farm - acres	182.9	176.6	175.1
Percent of land area tillable	92.7%	93.7%	93.6%
Acres in Corn	67.8	68.4	62.8
Oats	30.1	28.9	27.3
Wheat	1.6	3.1	.8
Crop yields - Corn	36.3 bu.	41.4 bu.	31.1 bu.
Oats	34.1 bu.	36.2 bu.	31.1 bu.
Wheat	15.9 bu.	16.0 bu.	17.4 bu.
Returns per $100 invested in all productive livestock	$104.00	$123.00	$ 83.00
For $100 in Cattle	$ 83.00	$ 92.00	$ 66.00
Hogs	123.00	152.00	98.00
Poultry	147.00	163.00	115.00
Investment per acre in productive livestock	$ 13.50	$ 12.76	$ 14.96
Receipts per acre from productive livestock	14.03	15.75	12.45
Man labor cost per acre	$ 7.07	$ 6.47	$ 8.16
Crop acres per man	78	84.4	65.4
Crop acres per horse (with tractor)	24.6	25.3	23.8
(without tractor)	17.9	18.0	16.9
Expense per $100 gross income	$ 75.00	$ 50.00	$124.00
Machinery cost per acre	2.10	2.05	2.28
Building and fencing cost per acre	1.54	1.29	1.93
Gross receipts per acre	$ 19.26	$ 26.31	$ 13.20
Total expense per acre	14.36	13.12	16.36
Net receipts per acre	4.90	13.19	- 3.16
Percent of farms with tractor	49.0%	46.0%	47.0%
Value of land per acre	$165.00	$165.00	$170.00
Total investment per acre	218.00	216.00	228.00

Henry County, Wethersfield Township - 1927

Item	Average of 117 farms	39 most profitable farms	39 least profitable farms
Capital Investment - Total	$39,850	$38,106	$39,892
Land	30,160	29,072	29,782
Farm improvements	4,069	3,814	4,369
Machinery and equipment	1,359	1,318	1,375
Feed and supplies	1,326	1,304	1,195
Livestock	2,936	2,598	3,171
Horses	477	493	488
Cattle	986	852	1,093
Hogs	1,259	1,091	1,404
Sheep	106	56	82
Poultry	108	106	104
Receipts - Net Increases - Total	3,523	4,646	2,311
Feed and grain	939	1,842	108
Miscellaneous	18	23	23
Livestock - Total	2,566	2,781	2,180
Cattle	469	486	485
Hogs	1,447	1,646	1,242
Sheep	73	106	23
Poultry	105	127	69
Egg sales	83	86	67
Dairy sales	389	330	294
Expenses - Net Decreases - Total	1,646	1,411	1,829
Farm improvements	281	228	338
Horses	15	1	20
Machinery and equipment	384	362	400
Livestock expense other than feed	81	55	138
Crop expense	138	140	116
Labor hired	314	237	393
Taxes, insurance	410	362	403
Miscellaneous	23	26	21
Receipts less expenses	1,877	3,235	482
Operator's and unpaid family labor	980	905	1,036
Net income from investment	897	2,330	- 544

Factors That Influence Farm Profits

Accounts kept by several hundred Illinois farmers during the past twelve years and analyzed by the Department of Farm Management of the University of Illinois, College of Agriculture, have shown that farms which are profitable and those which are not usually differ in one or more of the following ways:

1. Crop yields
2. Livestock efficiency
3. Labor efficiency
4. Amount of livestock
5. Power and equipment efficiency
6. Percentage of land in the more profitable crops, such as corn, wheat, alfalfa, and sweet clover pasture
7. Thrift in controlling expenses
8. Diversity of production
9. Volume of business
10. Adjusting production to take advantage of market conditions
11. Good arrangement of fields and buildings

For the farms included in this survey the greatest difference between the most successful third and the least successful third is in the first three of these factors, namely, crop yields, livestock efficiency, and labor efficiency. Considering the large difference in net earnings between the two groups it undoubtedly will pay many farm operators with low farm earnings to study their farm business with a view to increased efficiency along these lines.

Larger yields give lower costs per bushel or ton of crop since it requires little more cost for seed, labor, power, equipment, and taxes to operate an acre of high producing land than an acre of low producing land. Cost accounts kept on several groups of farms have shown that a difference in yield may make a difference of 35 cents a bushel in the cost of producing corn.

Livestock efficiency involves many factors, including feeding, sanitation and management. Knowledge of the best practices is within the reach of all farm operators thru the publications of the state Agricultural Experiment Station. In this report we can only point out that thousands of accounts kept on Illinois farms have furnished unquestioned evidence of the value of selecting the kinds and numbers of livestock best suited to the feed supply, available labor and markets. The evidence is just as conclusive on the value of good sanitation and good well balanced feeding.

Labor efficiency does not necessarily mean working the largest number of hours, altho it is evident that farms planned and operated to give profitable employment thruout the year have a big advantage over farms with heavy peaks of labor and other periods when there is practically no productive work on crops and livestock to be done. Efficiency in use of labor has been studied thru accounts on many farms. It is helped along by good yields, a well planned crop rotation which distributes the demand for labor thruout the growing season, large well arranged fields, a good selection of livestock, and suitable equipment. Power and equipment efficiency is generally increased by the same means that give increased labor efficiency.

A higher percentage of land in the more profitable crops can be gained by using a crop rotation which gives a maximum of such crops as corn, wheat, alfalfa, and sweet clover pasture. Some crops not commonly profitable are timothy, bluegrass on tillable land, and oats as a crop to sell. These are all crops requiring a small amount of labor, however, and have a place under some conditions, especially if they do not occupy too large a share of the crop land.

Cash receipts come in slowly on farms as compared with most other businesses. Expenses should be kept well under control with a view to getting a good return for the expenditure made. Some ways to reduce cash outlays are to grow and prepare feeds and seeds at home, to organize the farm so as to hire as little rush time labor as possible, and to do repair work at home during slack seasons.

Some small farms are operated fairly efficiently but fail to do a large enough volume of business to leave any profit after taking out the carrying costs on a set of improvements, a set of equipment, and the wages for a man. A farm on which the gross income for a year falls below $3,000 should probably do a larger business either by adopting more intensive enterprizes, such as dairy cows, poultry, or feeding stock, or in some cases on small farms the size should be increased by renting or buying additional land. Some farm operators are taking in a gross income of $5,000 a year on 80 acres of land, but this requires intensive enterprizes and good management.

Comparison of Incomes on Rented and Owned Farms. A record was made as to the ownership of 117 farms covered by this report and as previously stated, 37 farms were owned by the operator, 54 were rented, and 26 were part owned and part rented. It is interesting to note that the rates earned averaged higher on the rented than on owned farms. As an average the owner operators earned 1.2 percent, the tenant operators 3.4 percent, and the operators who owned part and rented part of their land earned 1.5 percent on the total farm investment. There were no great differences in the amounts invested in different items on the owned and rented farms. The owner operated farms averaged $1,522 larger total investments than the tenant farms with $1272 more in improvements, $219 more in equipment, $117 more in feed and grain, and $814 more in livestock. To offset part of this the tenant farms had an average of $900 larger investment in land, due to the fact that they averaged 20 acres larger. The tenant operators averaged $291 larger gross incomes and $542 less operating costs per farm. There was little difference between the tenants and owners in the size and kind of enterprizes except that the owners had somewhat more beef cattle and hogs and less dairy cows than the tenants. There was no practical difference in their yields. The tenants realized slightly more income per $100 invested in livestock and they had a higher labor efficiency as shown by the fact that their labor cost was $1.50 an acre less than that of the owners. They operated about 20 more crop acres per man altho they had almost as much livestock. These differences were not large but these records at least indicate that tenancy may result in practically as good farming as owner operation where the tenancy is of the right type.

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Extension Act approved by Congress May 8, 1914
H. W. Mumford, Director

PRELIMINARY REPORT

on

THE COMBINED HARVESTER IN ILLINOIS

USE AND COSTS OF HARVESTING, 1927

Department of Farm Organization and Management
Agricultural Experiment Station, University of Illinois
Urbana, Illinois, in cooperation with
Bureau of Agricultural Economics, U.S.D.A.

May, 1928

PRELIMINARY REPORT ON THE COMBINED HARVESTER IN ILLINOIS

USE AND COSTS OF HARVESTING, 1927

By R. C. Ross and F. L. Underwood

The combined harvester has introduced into Illinois a new method of harvesting small grain and seed crops. This method of harvesting has been used in the Pacific states for many years, and was introduced into the Great Plains area ten years ago. In 1924 the first combine was used in Illinois. Since then the number has increased rapidly, until there were more than 300 machines in use in the state during 1927.

To secure information regarding the use of the combine in Illinois, a study was undertaken in 1927 by the Departments of Agronomy, Farm Mechanics, and Farm Organization and Management, University of Illinois, cooperating with the Bureaus of Plant Industry, Public Roads and Agricultural Economics, United States Department of Agriculture. This preliminary report deals only with the Farm Management phases of the study, and seeks to make the current information available particularly to the combine owners who cooperated in securing the records.

The general area covered by the study was central and eastern Illinois, extending from Christian and Douglas Counties on the south to Lee and Will Counties on the north. Twenty-four counties were represented in the records of the seventy-seven machines. The larger part of this area is in the grain-farming section of Illinois, although it extends into the livestock area on the northwest, the dairy area on the northeast, and the general farming region on the south.

All of the combines included in this study were drawn by tractors. One type of combine takes its power directly from the tractor which pulls it. This is popularly called the "power take-off" type, and included machines with cutting widths of 8 and 10 feet. The motor-mounted type is so called because the machine is operated by an auxiliary motor mounted upon it, the tractor simply pulling the combine forward. Machines of 9, 10, 12, and 16 foot sizes represented this type. Three-fourths of the combines studied were of the 10 and 12 foot sizes.

Of the seventy-seven combines included in the study, seventy-three were farm-owned and four were custom machines. Of the farm-owned machines, six were owned jointly and represented 16 farms. Thus the seventy-three farm-owned machines listed the cutting on these 83 farms as home work.

Farms on Which Combines are Owned

In general, the farms in the southern part of the area included a larger acreage of combine crops than those farther north. This may be shown by dividing the area by a line running east and west along the southern boundary of McLean County. The 35 farms on which the 32 combines were owned north of this line averaged 361 acres in size, and the 48 farms owning 41 combines south of this line averaged 365 acres. The two groups averaged 48 acres of oats, 8 and 11 acres of sweet clover, and 12 and 15 acres of other clovers. However, the southern group averaged 67 acres of wheat to 46 in the northern, and 52 acres of soybeans to 17 in the northern. Barley is negligible south of this line, but averaged 31 acres per farm in the northern group. Small grains and soybeans totaled 167 acres per farm in the southern group and 142 in the northern.

The sizes of the 83 farms on which combines were owned entirely or in joint ownership are of interest. Altho these farms ranged in size from 120 to 980 acres, 68 percent were under 400 acres in size, 25 percent from 400 to 700 acres, and 7 percent above 700 acres. This is shown in the following table.

Table 1. Numbers of Combine Farms in Various Size Groups

Number of acres	Number of farms
100-199	18
200-299	19
300-399	19
400-499	7
500-599	10
600-699	4
700-799	1
800-899	3
900-999	2
Total	83

Most of the farms on which partnership machines were owned were in the smaller size groups.

It is of interest further to note the average sizes of farms on which the various types and sizes of combines were owned. Table 2 shows that generally speaking, the 8 foot power take-off machines were owned on farms of about 240 acres in size, but that the average sizes of farms for all other groups fell between 340 and 410 acres. In the case of three groups, - the two 10 foot and the 12 foot sizes, - partnership machines were owned; hence the number of farms in these groups was larger than the number of machines. This increased somewhat the average area of land associated with these machines. The crops grown on these farms in 1927 indicate the acreages of small grain and seed crops available for harvest.

Table 2. Sizes of Combines in Relation to Average Acreages of Crops and Size of Farms on Which They are Owned

Type	Power Take-off		Motor Mounted			
Size of Combine	8 ft.	10 ft.	9 ft.	10 ft.	12 ft.	16 ft.
Number of Combines	6	17	7	24	16	3
Number of Farms	6	18	7	31	18	3
Corn	103	117	143	108	131	72
Oats	42	42	64	40	61	58
Wheat	32	53	79	50	66	125
Barley	8	13	3	10	26	--
Soybeans	24	54	20	42	20	65
Sweet Clover	--	3	5	15	11	--
Other Clovers	7	23	--	13	22	--
Alfalfa	--	4	1	4	3	10
Timothy	--	16	8	5	5	--
Pasture	19	41	44	46	51	44
Miscellaneous	--	3	13	2	2	--
Farmstead	4	12	7	8	9	6
Total	239	381	392	343	407	380

Acreages Harvested

The acreages harvested with combines include the cutting both on the farms where combines are owned, and custom work on other farms. A large proportion of the combines was used for some custom work, and four machines did only custom work. The total areas cut by various sizes of combines, the amounts of home and custom cutting, and the acreages cut of various crops are shown in Table 3. The total acreages harvested corresponded closely to the width of cutter bar ranging from 24 to 29 acres for each foot of cutting width, although some individual machines far exceeded these figures.

Table 3. Average Acreages of Crops Harvested with Combines of Various Types and Sizes

Type	Power Take-off		Motor Mounted			
Size of Combines	8 ft.	10 ft.	9 ft.	10 ft.	12 ft.	16 ft.
Number of Combines	6	18*	7	24	17*	5**
Wheat	75	87	111	95	109	192
Oats	50	48	63	59	72	28
Barley	12	18	9	15	55	53
Soybeans	55	128	54	91	56	162
Buckwheat	--	2	--	6	6	2
Timothy	--	6	--	5	2	--
Sweet Clover	--	4	--	12	4	11
Other Clovers	--	--	5	1	15	--
Miscellaneous	2	4	6	--	3	2
Total	194	297	248	284	322	450
Acres home farm	81	144	114	161	166	91
Acres custom work	113	153	134	123	156	359

* One combine did only custom work
** Two combines did only custom work

The acreage which may be harvested with a combine is limited by the length of cutting day, the number of crops harvested, the condition of the crops, and the length of time during which any particular crop may wait without damage from the delay.

The humid conditions in Illinois limit quite closely the number of hours a day during which a machine can be operated. The average length of cutting day for 1927 for all machines varied from 5.2 hours to 5.8 hours on different crops. A study made by the U. S. Department of Agriculture in the Great Plains area in 1926 showed an average cutting day of 10.4 hours. This shorter working day with the combine in Illinois indicates the necessity of limiting the acreage of crops maturing at one time which should be undertaken. However, this limitation is compensated in the Corn Belt by a greater variety of crops maturing at different seasons, so that the average acreage covered by a given size of machine was practically the same as in the Grain Plains area.

Fourteen crops were harvested with the combines on which records were secured; these included wheat, oats, barley, soybeans, rye, buckwheat, timothy, sweet clover, red, alsike and mammoth clovers, sudan grass, millet, and flax. While these crops indicate the wide adaptability of the combine, four crops, - wheat, oats, barley and soybeans made up 93 percent of the acreage cut.

The harvesting of oats was the least satisfactory of the major crops harvested. Quite a number of the combine owners used a binder to harvest a part or all of the oat crop. In a number of cases this was done to save the straw, altho many men who harvested oats with the combine experienced some difficulty, several reporting damage by storms after the grain was ripe. Of the minor crops, sweet clover caused the most difficulty, failure to handle the crop being rather common.

Undergrowth was the cause of much trouble during the season. Weeds were the outstanding offender in this respect, but sweet clover, other clovers, and grass were frequently mentioned. Some thought that sweet clover should not be sown in crops which were to be cut with the combine; clearly this would be a step in the wrong direction. The growth of weeds and undergrowth was abnormal during the season of 1927, due to continued wet weather which stimulated the growth of green material and at the same time delayed the cutting of the grain. Under most conditions weeds may be partially controlled by a proper selection of crops for the rotation, the proper preparation and seeding of crops, and the use of only pure recleaned seed.

Rate of Cutting

The rate of cutting varied with the size of machines, the kind of crop, and the cutting conditions. The prevalence of undergrowth and lodged grain in 1927 probably reduced somewhat the rate of cutting. However, these rates as shown in Table 4 indicate in general what was accomplished in harvesting major crops; comparisons for minor crops are omitted because of the small acreages cut.

Table 4. Average Acres of Major Crops Cut per Hour by Combines of Different Types and Sizes

Type	Power Take-off		Motor Mounted			
Size of Combines	8 ft.	10 ft.	9 ft.	10 ft.	12 ft.	16 ft.
Number of Combines	6	18	7	24	17	5
	Acres	Acres	Acres	Acres	Acres	Acres
Wheat	1.48	2.37	2.22	2.13	2.74	2.71
Oats	1.58	2.30	2.17	2.35	2.62	3.70
Barley	1.29	2.31	1.88	2.07	2.65	3.48
Soybeans	1.21	2.21	1.72	1.93	2.02	2.47

Yields were generally low in 1927 as shown in Table 5.

Table 5. Average Yields of Crops Combined in 1927

Crop	Acres	Average Bushels per Acre
Wheat	7,893	17.3
Oats	4,255	31.0
Barley	1,814	25.5
Soybeans	6,785	15.4
Buckwheat	269	21.7
Timothy	263	3.76
Sweet Clover	480	3.04
Other Clovers	302	1.48

Cost of Harvesting with Combines

The investment required for harvesting with a combine is indicated by the first costs of the various sizes of machines. These costs including special equipment are shown in Table 6.

Table 6. First Cost of Combines

Type	Width of cut (feet)	Number of Combines	Average Cost of Combines
Power Take-off	8	6	$1,011
	10	18	1,100
Motor Mounted	9	7	1,499
	10	24	1,470
	12	17	2,169
	16	5	2,281

In addition many men purchased new or larger tractors to provide sufficient power. All of the 8-foot power take-off machines, and part of the 9-foot and 10-foot motor mounted machines were pulled with two-plow tractors. All other machines used three-plow tractors.

In calculating the costs of cutting and harvesting with combines, methods have been used which represent standard costs over a period of years, rather than those for the first year of operation when depreciation and interest costs would be high and repairs low. The costs as determined for the various sizes of machines include labor, power, fuel, lubricants, repairs, depreciation, interest, and shelter. Labor is that used to operate the combine and the tractor and for the daily chores of keeping the combine in running order. This was figured at fifty cents an hour, which represents a fair rate for the degree of skill required. The power item is the cost for tractor power excluding the fuel, oil, and driver; based upon the results of power studies carried on by the Department of Farm Management, the rate of 50 cents an hour was used for two-plow tractors, and 90 cents an hour for three-plow and larger machines. Fuel costs included gas and kerosene used both in the tractor and in the motor mounted on the machine. Lubricants included motor oil both for the tractor and motor, lubricating oil and grease. Repairs included the cash outlay for new parts and the labor used to make these repairs. Depreciation was determined on the basis of an average life of nine years for the machines. Interest was figured at 6 per cent on the average value of the machine over a lifetime of nine years. The cost of shelter had no definite relationship to the size of combine. For individual machines it depended largely upon the availability of shelter or the necessity of providing new shelter; hence the average for all machines is used as applying to all sizes. The costs given in Table 7 do not include hauling the grain from the combine to the bin or elevator.

Table 7. Average Costs of Operating Combines of Various Types and Sizes During the Harvesting Season

Type	Power Take-off		Motor Mounted			
Size of Combine	8 ft.	10 ft.	9 ft.	10 ft.	12 ft.	16 ft.
Number of Combines	6	18	7	24	17	5
Labor	$ 78.41	$135.18	$133.70	$148.21	$145.52	$198.70
Tractor Power	70.06	119.20	74.85	106.41	107.82	153.15
Fuel	35.58	49.00	51.03	58.35	71.09	87.10
Lubricants	9.13	16.64	11.44	16.72	19.40	28.43
Repairs	5.73	7.08	1.18	7.54	4.67	6.22
Depreciation	112.32	122.18	166.52	163.37	241.04	253.49
Interest	33.66	34.90	50.00	49.00	72.27	76.03
Shelter	12.00	12.00	12.00	12.00	12.00	12.00
Total Cost	$356.89	$496.18	$500.72	$561.60	$673.81	$815.12
Acres cut	194	297	248	284	322	450
On home farm	81	144	114	161	166	91
Off home farm	113	153	134	123	156	359
Hours cutting	138	132	124	140	132	170

The repairs as determined by the cash outlay during the year were abnormally low, due to the fact that the machines studied are all relatively new and hence do not have as heavy repairs as may be expected after more years of service, and further, since most of the machines were purchased in 1927, the owners benefitted by the repairs and expert help usually furnished free by the manufacturers during the first year. An estimate of normal repair costs may be secured from the study made in 1926 in the Great Plains area which included many machines which had been in use for more than one year on which the cash repair bill amounted to about ten cents an acre.

In prorating these costs for the season to the various crops, it must be borne in mind that crops differ in the rate and cost of harvesting, and that the acre charge for the fixed expenses of depreciation, interest and shelter varies with the total acreage harvested. To meet this situation, the current operating costs including labor, power, fuel, lubricants, and repairs have been calculated separately and reduced to the cost per hour of cutting. From this hourly cost and the rate of cutting, the operating cost for an acre of each crop is determined. (See Table 8).

Table 8. Average Operating Costs Per Acre in Harvesting with Various Sizes of Combines

Type	Power Take-off		Motor Mounted				Average
Size of Combines	8 ft.	10 ft.	9 ft.	10 ft.	12 ft.	16 ft.	All Sizes*
Number of Combines	6	18	7	24	17	5	
Wheat	$ .97	$1.05	$ .99	$1.14	$ .96	$1.03	$1.02
Oats	.91	1.07	1.01	1.03	1.00	.76	.96
Barley	1.13	1.07	1.16	1.15	.99	.80	1.05
Soybeans	1.19	1.12	1.28	1.25	1.29	1.12	1.21

* Simple average of all groups.

Combines have been used in Illinois too short a time to determine the rate of depreciation in relation to the amount of use; hence an average length of life of nine years has been used for all machines. The fixed costs including depreciation, interest and shelter as shown in Table 7 have been calculated for various amounts of cutting, and are shown in Table 9.

Table 9. Fixed Costs per Acre in Harvesting Different Acreages with Various Sizes of Combines

Type	Power Take-off		Motor Mounted			
Size of Combines	8 ft.	10 ft.	9 ft.	10 ft.	12 ft.	16 ft.
Fixed Costs	$157.98	$169.08	$228.52	$224.37	$325.31	$341.52
Number of Acres						
100	$ 1.58	$ 1.69	$ 2.29	$ 2.24	$ 3.25	$ 3.42
200	.79	.85	1.14	1.12	1.63	1.71
300	.53	.56	.76	.74	1.08	1.14
400	--	.42	.57	.56	.81	.85
500	--	.34	--	.45	.65	.68
600	--	--	--	--	.54	.57

To secure the approximate cost of cutting and harvesting an acre of wheat, oats, barley, or soybeans, the current operating cost for that crop as shown in Table 8 should be added to the fixed cost for the entire acreage cut with the combine as shown in Table 9. The result as applied to wheat is shown in Table 10 for machines of various sizes, and for varying amounts of cutting (all crops included). These acre costs may be reduced to a bushel basis by dividing them by the yield per acre.

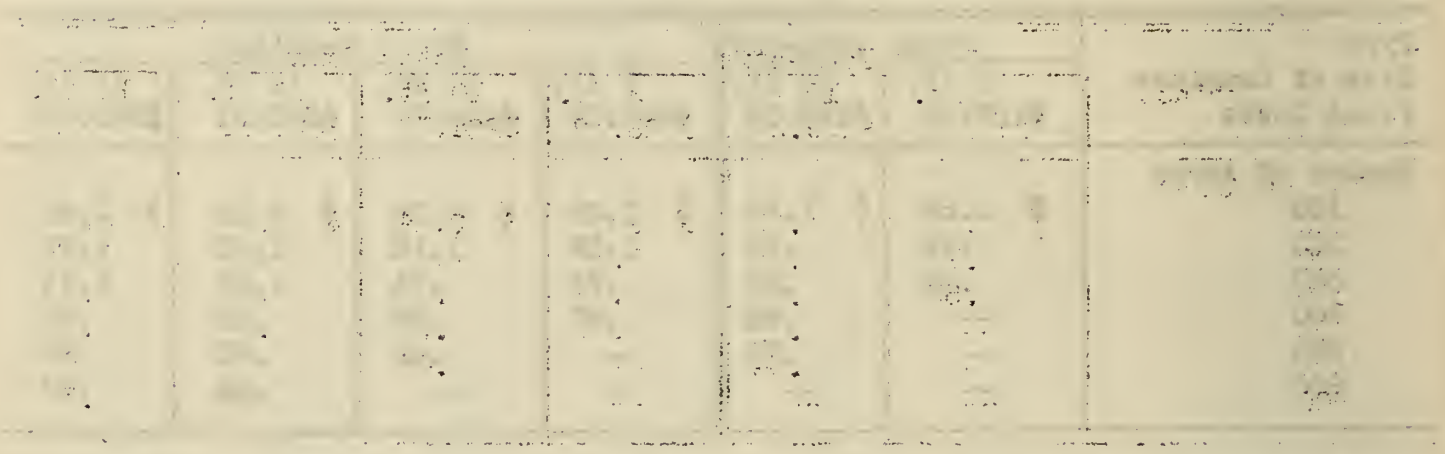
Table 10. Approximate Total Cost of Harvesting Wheat When Combine Acreage of All Crops Varies

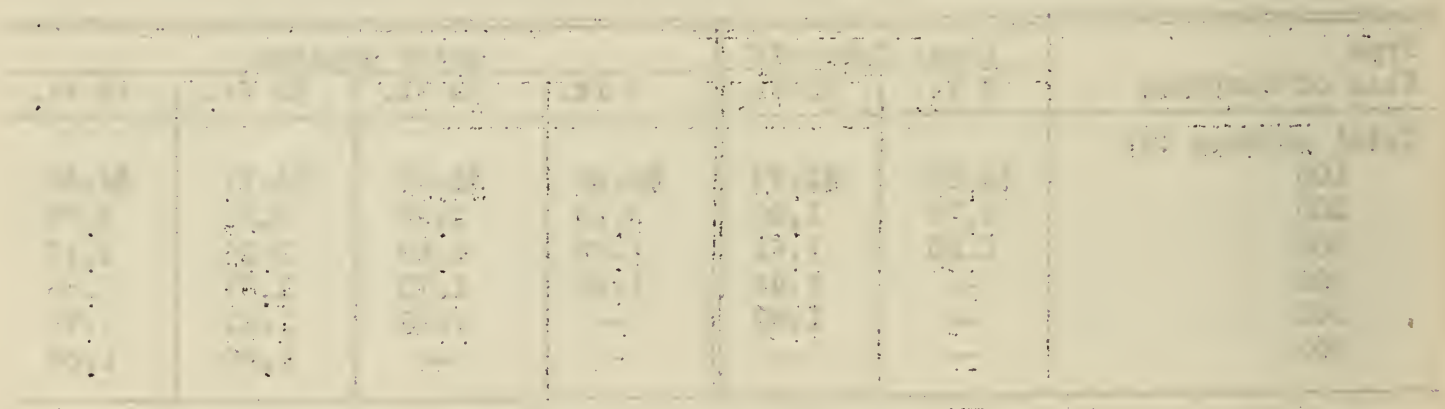
Type	Power Take-off		Motor Mounted			
Size of Combines	8 ft.	10 ft.	9 ft.	10 ft.	12 ft.	16 ft.
Total acreage cut						
100	$2.55	$2.74	$3.28	$3.38	$4.21	$4.45
200	1.76	1.90	2.13	2.26	2.59	2.74
300	1.50	1.61	1.75	1.88	2.04	2.17
400	--	1.47	1.56	1.70	1.77	1.88
500	--	1.39	--	1.59	1.61	1.71
600	--	--	--	--	1.50	1.60

It must be borne in mind that these records are for one year only, and are based on the amount of cutting done by these machines in 1927. Further, there were variations between machines of the same type and size; hence these figures cannot be used as applying to a particular machine, but rather an indicative of the approximate costs.

Adequate Use of Combines

While the current operating costs are fairly constant, it is apparent from Table 9 that the fixed costs per acre decrease rapidly as the acreage increases. Hence, to secure a reasonable cost of harvesting it is necessary to use the machine on a rather large acreage. From this study it is apparent that if several crops





are harvested which mature at different times, with normal weather conditions one may easily cut 30 acres for each foot of width of cutterbar. However, there are relatively few farms with sufficient acreage of combine crops to use a machine to this extent. For the great majority of farms, therefore, a sufficient acreage must be secured through joint ownership of a machine, or by custom work.

Several of the machines included in this study were owned jointly by two or three men on smaller farms. The total acreage of land for which combines of various sizes are adequate may be determined from the proportion of all land planted to combine crops and the total acreages combined. If we include all the acreage of small grain crops and soybeans, and one-half of that of sweet clover, timothy, and other clovers as crops likely to be harvested with the combine, the northern part of the area averaged 43 acres of cutting for each 100 acres in farms having combines; and the southern part of the area 49 acres of cutting. Upon the basis of these figures and the acreages cut by the various sized machines, the acreage covered by the 8-foot machines represented a total farm acreage of 400 to 450 acres; the 9-foot machines from 500 to 575 acres; the 10-foot machines from 600 to 700 acres; the 12-foot machines from 650 to 750 acres; and the 16-foot machines from 900 to 1050 acres. It appears likely that these acreages might be increased considerably in most years by the proper selection of kinds and varieties of crops, to secure ripening over a long season. Joint ownership of combines on farms whose total acreages are similar to those indicated offers a satisfactory way to adequately use a machine.

Custom cutting has been quite generally used as a basis of increasing the acreage, since it affords a cash income which helps defray the heavy initial expense of the machine. In this way some men secured an income greater than the whole season's cost. However, custom work should be considered as a means of distributing the fixed overhead costs rather than as a source of profit. Experience in other areas where combines have been used for a longer period indicates that rates for custom work are likely to be reduced as machines become more numerous.

Further, custom work has many disadvantages to the combine owner. During the past season several men stated that the acreage they had contracted, while considered reasonable for a favorable cutting season, was too much for one less favorable. As a result there was dissatisfaction among their customers and in some cases total losses. A few men in an effort to handle an over-extended acreage increased the rate of travel. Where straw was heavy or undergrowth abundant, this necessitated cutting high and greatly increased the losses in case of lodged grain.

The custom acreage which one can handle depends upon the amount of home cutting to be done, the kinds of crops and the size of machine. The income depends upon this acreage and also upon the rates charged. These rates have not yet become standardized as have rates for threshing with a stationary thresher. It is clear that custom rates should pay for the costs involved, yet be fair from the standpoint of the customer.

Custom Rates

An examination of rates used during the past season indicates that each man made his own guess at a fair rate as best he could. In cutting wheat, 27 different rates were used, and in no case was the same rate used with more than 9 machines. Similarly with soybeans, 21 different rates were used; with oats 19, barley 14, and lesser numbers for minor crops.

In attempting to analyze these rates those on wheat may be used as an illustration. The 27 rates may be classified into four groups. First, the straight acre basis, which was used by the largest number of men. This included variations running all the way from $2 to $5 an acre. A modification was introduced by some men in that the fuel used was charged to the customer in addition to the acre charge, the cost for the fuel on wheat averaging from 17 to 20 cents per acre. A second basis was the straight bushel charge of 15 cents a bushel. In some cases this was fortified by a minimum charge of $3 an acre which operated in cases in which the yields were less than twenty bushels. A third basis was one which combined the acre and bushel charges. In this case the flat acre charge ranged from $1.25 to $2 per acre and the additional bushel charge from six to ten cents a bushel. This was varied in a few cases by charging the fuel to the customer in addition to the other rates.

A fourth basis was found on a few farms in which the customer furnished the tractor power and in some cases the fuel and driver as well. In the rates for barley and soybeans a fifth basis of charging was found in a charge per hour of cutting.

In all this array of rates what is a fair rate for this work, A scrutiny of the principal types shows some of their weaknesses. The straight acre basis varied from $2 to $5 an acre. From the customer's standpoint this basis is unfair, since it is evidently worth more to have a 25-bushel crop of wheat harvested than a 15-bushel crop. In practice the straight bushel basis varied from $.95 to $3.75 an acre. Its weakness is apparent in the case of low yielding grain which does not pay cutting expenses. A timo basis is not practical since it opens the way for controversy on the rate of travel at which the cutting should be done and whether or not the time is being used to the best advantage.

The combined acre and bushel rate appears to be the most practical basis; when applied to a 15-bushel yield the income from the various combined rates used ranged from $2.15 to $3.50 an acre; on a 20-bushel yield from $2.45 to $4.00, and on a 25-bushel yield from $2.75 to $4.50. This basis guarantees the combine owner against heavy loss where yields are low, and pays him more when yields are good. From the customer's standpoint the rate varies with his yield and therefore with the benefit secured and his ability to pay. The particular rate per acre and per bushel must be determined by each operator. Several men used two dollars per acre plus the customary threshing rate for each kind of grain with satisfactory results. Such a rate falls about halfway between the figures given above for different yields.

Advantages and Disadvantages of Combine Method of Harvesting

The advantages and disadvantages of the combine method of harvesting as seen by the owners of the machines are of interest. The advantages, listed in order of number of times mentioned, were: Saving of time, saving of labor, less expense, saving of grain, less board, straw returned to the land, grain of better quality, saving of twine, makes possible earlier plowing in the fall, earlier marketing of grain, less worry about help, does a better job, more independence, more pleasant work, a larger acreage can be farmed, less risk and fewer horses needed. The disadvantages listed were: Lack of straw for livestock, weather difficulties, greater risk, difficulties from mud and soft ground, trouble from undergrowth and weeds, lodging from delayed cutting, tendency to undertake too large an acreage, loss of straw-broken heads, high investment, hard to know when to cut, too much moisture in grain, insurance cost high, machine hard to house, cutting season too short, machine not suited to rough ground, wheat graded off, bleaching, and visitors.

Space does not permit a discussion of all these advantages and disadvantages. While some of them are doubtless incident to the operation of a new machine, or to the character of the season, others represent factors influencing the place the combine will eventually hold in the Corn Belt.

Variations in the managing ability of different men were reflected in the results secured from their machines. Reasonable acre costs depend both upon mechanical ability to operate the machine efficiently and the distribution of the heavy fixed overhead over a considerable acreage. Several men, although their machines were secured at the beginning of the season, used them on only one or two crops, or on a small total acreage of all crops, and consequently incurred high costs for each acre cut. In a number of instances grain was harvested where the value of the low yields secured was not sufficient to pay the cost of harvesting.

Should a man increase the proportion of crops to be harvested with the combine? If simply from the standpoint of having a larger acreage to harvest and thus to distribute the cost of the machine over a larger acreage, the plan may be ill advised, since it may run counter to a profitable organization of the farm. If, on the other hand, a man seeks to replace a low-profit crop with one which yields a larger profit, the move is in the right direction and the combine may help to accomplish this purpose.

Since the combine has been used only a short time in the Corn Belt, it is planned to continue this study in 1928 to secure additional data.

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H. W. Mumford, Director

DAIRY ENTERPRISE COST STUDY

There were 57 farmers in DuPage, Cook, Lake, Kane, McHenry and Will counties that belonged to Dairy Herd Improvement Associations and who kept special records on their dairy herds in addition to the financial record on the entire farm and the Dairy Herd Improvement record. These three records form the basis of the dairy enterprise cost study. These farms are located in the Chicago whole milk section and are primarily dairy farms, having an average of nearly 20 milk cows per farm and selling over $3,600 worth of dairy products.

The following table showing the costs per cow on the different farms indicates that there is a very wide range in some items. The total costs per cow varied from $116 on one farm to $254 on another, or 119% variation. Most of the difference in cost is usually found in the feed bill, the depreciation per cow, or the man labor charge. These three items of cost constitute 82% of the total cost on the average. The feed cost per cow varied $35 on two farms with practically the same production per cow and disregarding production there is a variation of nearly $95.00. The man labor charge for the year ranged all the way from $20.04 to $64.94 per cow, while the extreme variation in depreciation per cow on these farms was slightly over $50.00.

The average production per cow for all farms was 8,155 pounds of milk and 288 pounds of butterfat. The total cost averaged $177.03 and the total income $213.51 leaving a profit of $36.48 per cow for the year. Of the $177.03 total cost, $95.61 was feed cost, $36.61 man labor charge, and $12.91 depreciation, leaving $31.90 for such items as interest on investment in cows, use of buildings and equipment, veterinary and medicine, association dues, and a share of the general overhead expenses.

Milking machines were used on 32 of these 57 farms. The man labor and equipment expense was averaged on those farms using milking machines and on those not using them to see what effect they had upon the cost. The 32 farms using milking machines averaged 21.7 cows per farm with a man labor cost of $33.94 and equipment charge of $3.95 per cow. The 25 farms without milking machines had only 16.6 cows per farm with an average man labor charge of $41.03 and equipment cost of 98 cents per cow. The farmers with milking machines spent 136 hours caring for each cow during the year and those without spent 164 hours on each cow on the average. It cannot be said that all of the lower cost on the farms using milking machines was due to their use, because those herds averaged 5 cows more per farm than the other herds. Herds of 20 cows or more should be handled with a lower man labor and equipment charge per cow than the smaller herds. From a summary of a large number of herds it was found that 162 hours of man labor per year were required per cow on herds of 10 or less and 143 hours on herds of 20 cows or more. This difference of 19 hours in amount of labor required per cow in small and large herds would help to account for the difference in cost between herds using milking machines and those not using milking machines, which were smaller in size.

[illegible]

MILK PRODUCTION COSTS (per cow) 1927

Table 3.- Items of cost and income per cow on 57 farms in DuPage, Cook, Lake, Kane, McHenry and Will Counties. (Farms ranked in order of net profit per cow)

Farm number	37*	11*	1	56	14	29	33	22*	19*	53*
COSTS, per cow										
Feed and bedding	$ 98.99	96.77	97.94	98.27	89.05	102.57	104.05	100.38	99.26	97.65
Man labor	30.02	38.91	43.24	39.81	23.15	37.60	39.00	31.19	21.49	37.54
Int. on invest. in cows	8.00	8.28	6.99	8.74	5.17	7.25	6.75	7.46	4.59	4.94
Depreciation	----	15.69	-----	27.09	----	14.97	4.14	41.05	8.45	5.37
Shelter	7.09	15.13	11.65	3.15	1.47	6.80	6.13	3.48	5.08	4.61
Equipment	3.90	6.30	1.21	3.14	.87	.44	1.89	2.31	4.14	6.00
Veterinary and medicine	.27	1.21	2.94	.85	1.60	.24	3.15	1.31	1.89	3.06
Association dues	4.03	3.58	3.88	4.96	5.33	4.04	2.84	4.93	3.65	3.79
General farm expense	10.00	10.55	11.13	10.79	8.94	10.86	11.21	10.35	9.48	10.76
Miscellaneous	-----	.13	.32	-----	----	.32	.36	.22	.17	1.43
TOTAL COST	$162.30	196.55	179.30	196.80	135.58	185.09	179.52	202.68	158.20	175.15
INCOME										
Dairy sales	$232.25	236.62	212.69	254.53	172.50	226.69	221.86	256.65	204.30	215.51
Milk used on farm	36.67	31.42	21.51	11.64	16.29	13.38	9.27	7.18	17.37	20.70
Appreciation	6.49	-----	5.88	-----	6.80	------	-----	----	-----	-----
Manure	14.19	10.75	19.76	9.23	16.93	21.43	22.43	11.20	7.07	6.55
TOTAL INCOME	$289.60	278.79	259.84	275.40	212.52	261.50	253.56	275.03	228.74	242.76
NET PROFIT	$127.30	82.24	80.54	78.60	76.94	76.41	74.04	72.35	70.54	67.61
MILK (in lbs.)	10,557	6,001	6,790	10,825	6,913	9,367	9,843	9,315	9,302	9,714
BUTTERFAT (in lbs.)	375	275	286	387	249	334	329	317	307	332
FEEDS (in lbs.)										
Corn	243	---	---	661	---	1,101	676	962	739	1,753
Oats	708	975	1,261	920	756	761	462	903	607	1,750
Barley	771	798	534	1,297	725	----	723	903	705	----
Total grain	1,722	1,773	1,795	2,878	1,481	1,862	1,861	2,768	2,051	3,503
Mill feed	864	345	847	632	608	1,138	1,104	1,277	702	584
Hay	2,429	2,410	2,757	1,531	1,688	1,713	2,405	1,724	1,462	1,132
Silage	10,371	7,407	7,552	6,236	8,888	9,221	7,113	8,235	6,990	5,763
Other roughage	----	----	----	----	1,568	522	----	-----	192	----
Pasture days	112	92	91	184	122	92	153	122	92	184
Man hours	120	156	173	159	93	150	156	125	86	150
COWS per farm	22.2	18.4	8.5	11.7	15.0	14.7	22.2	13.4	18.1	17.7
Breed	PB & GH	PB & GG	GG & GH	PB & GH	PB & GH	PB & GH	PB & GH	PB & GH	PB & GH	PB & GH

*Milking machines were used on these farms.

Continued

MILK PRODUCTION COSTS (per cow) 1927

Items of cost and income per cow on 57 farms in DuPage, Cook, Lake Kane, McHenry and Will Counties. (Farms ranked in order of net profit per cow)

Farm number	38	34	28*	27	44	5*	57*	20	6
COSTS, per cow									
Feed and bedding	$ 88.59	117.35	98.52	71.20	152.54	110.06	92.00	93.00	110.09
Man labor	44.95	55.22	42.32	32.78	57.02	23.63	33.69	27.75	30.47
Int. on invest. in cows	8.01	7.82	6.03	4.55	8.21	7.22	9.02	5.08	8.19
Depreciation	.73	----	14.65	1.78	6.20	20.09	8.66	13.13	40.14
Shelter	6.37	12.09	4.52	5.30	4.21	11.67	6.46	6.66	6.39
Equipment	.21	3.94	2.63	.05	2.59	3.72	2.61	.59	.79
Veterinary and medicine	.04	.43	2.46	.85	.78	3.01	----	1.65	2.89
Association dues	4.96	4.53	2.60	2.88	2.83	5.64	6.75	2.80	4.65
General farm expense	10.39	13.34	10.99	8.08	16.03	15.70	9.94	9.40	11.11
Miscellaneous	----	.36	.62	----	.70	1.04	.21	.11	----
TOTAL COST	$164.25	215.08	185.34	127.47	251.11	201.78	169.34	160.17	214.72
INCOME									
Dairy sales	$196.57	237.31	224.66	170.42	267.79	239.13	196.25	197.81	245.86
Milk used on farm	15.05	23.91	13.92	9.44	20.44	4.40	7.69	9.63	7.87
Appreciation	----	----	----	----	----	----	----	----	----
Manure	17.52	16.76	9.45	9.58	18.18	13.08	19.59	6.01	14.23
TOTAL INCOME	$229.14	277.98	248.03	189.44	306.41	256.61	223.53	213.45	267.96
NET PROFIT	$ 64.89	62.90	62.69	61.97	55.30	54.83	54.19	53.28	53.24
MILK (in lbs.)	8,468	11,706	9,448	6,498	12,093	10,580	8,431	8,354	9,585
BUTTERFAT (in lbs.)	324	421	367	259	432	377	297	303	333
FEEDS (in lbs.)								**	
Corn	806	1,543	744	243		357	1,177		1,042
Oats	---	2,339	524	602		1,406	770	85	622
Barley	1,253	907	524	576		485	----	----	22
Total grain	2,059	4,789	1,792	1,421	(4,378	2,248	1,947	85	1,686
Mill feed	610	----	597	239	(	885	1,824	1,623	1,173
Hay	2,247	3,448	1,445	2,497	3,125	2,897	----	610	3,135
Silage	9,306	4,764	8,604	6,822	9,439	10,160	4,553	5,707	8,591
Other roughage	----	1,364	537	----	----	----	1,485	2,314	654
Pasture days	153	123	120	112	143	184	162	92	123
Man hours	180	221	169	131	228	96	135	111	122
COWS per farm	13.7	13.9	12.7	23.6	25.8	11.7	9.7	11.8	14.2
Breed	PB & GH	PBH	GH	PB & GH	PB & GH	PB & GH	PB & GH	PB & GH	PBH

*Milking machines were used on these farms. **On farm number 20 there were 7,966 pounds of wet malt fed per cow.

Continued

MILK PRODUCTION COSTS (per cow) 1927

Items of cost and income per cow on 57 farms in DuPage, Cook, Lake, Kane, McHenry and Will Counties. (Farms ranked in order of net profit per cow)

Farm number	51	25	10*	13*	4*	21*	39*	48*	52*	43*
COSTS, per cow										
Feed and bedding	$ 86.02	93.94	112.74	90.24	102.66	93.20	107.20	79.74	84.51	107.81
Man labor	25.81	34.60	25.22	33.37	29.26	36.60	31.22	44.09	26.05	55.00
Int. on invest. in cows	4.80	6.28	7.40	6.22	6.76	6.52	5.14	4.58	8.30	6.86
Depreciation	13.77	16.55	16.86	.43	29.42	.29	----	8.67	17.13	----
Shelter	2.53	4.00	7.40	5.02	4.59	2.88	3.49	1.91	9.86	8.93
Equipment	.53	.85	5.51	5.10	3.70	2.17	5.40	4.17	5.45	5.25
Veterinary & medicine	2.95	.70	2.49	.92	1.80	1.08	----	.71	3.16	.13
Association dues	4.36	3.30	4.15	2.84	5.41	4.75	3.64	3.24	4.69	2.83
General farm expense	8.94	9.94	10.86	9.62	10.53	10.18	10.68	9.58	8.88	12.44
Miscellaneous	----	----	.21	.83	1.23	.14	.30	----	----	.06
TOTAL COST	$149.71	170.16	192.84	154.59	195.36	157.81	167.07	156.69	168.03	199.31
INCOME										
Dairy sales	$171.13	203.48	212.13	181.56	197.27	154.01	166.10	173.19	180.97	162.74
Milk used on farm	16.90	8.80	17.00	4.71	30.95	35.96	28.63	4.71	18.62	40.32
Appreciation	----	----	----	----	----	----	----	----	----	9.25
Manure	14.18	8.90	11.70	14.52	12.38	13.01	11.25	18.62	7.48	22.17
TOTAL INCOME	$202.21	221.18	240.83	200.79	240.60	202.98	210.14	196.52	207.07	234.48
NET PROFIT	$ 52.50	51.02	47.99	46.20	45.24	45.17	43.07	39.83	39.04	35.17
MILK (in lbs.)	7,522	8,537	9,412	7,650	8,299	7,631	8,505	7,629	8,472	8,894
BUTTERFAT (in lbs.)	288	299	326	280	333	270	285	250	288	288
FEEDS (in lbs.)						**				
Corn	706	520	362	587	1,529	416	656	993	1,867	220
Oats	798	444	1,011	724	949	548	571	805	1,708	600
Barley	443	965	1,115	257	324	367	675	586	650	852
Total grain	1,947	1,929	2,488	1,568	2,802	1,331	1,902	2,384	4,225	1,672
Mill feed	536	1,193	455	1,035	534	717	1,894	145	381	603
Hay	1,520	1,400	1,850	1,477	1,911	1,384	3,064	2,748	1,416	3,481
Silage	7,693	7,839	10,514	5,185	7,193	8,142	8,196	6,995	4,034	8,102
Other roughage	----	720	----	----	----	1,464	----	----	----	2,083
Pasture days	184	107	122	183	153	122	168	153	213	165
Man hours	103	138	101	132	117	146	125	176	104	220
Cows per farm	12.2	20.0	22.9	28.2	12.2	13.9	20.9	21.0	14.3	24.0
Breed	Mixed	PB & GH	PB & GH	PB & GH	PB & GH	GH	PBH	PB & GH	PB & GH	PBH

*Milking machines were used on these farms. **On farm number 21 there were 2,535 pounds of wet malt fed per cow.

Continued

MILK PRODUCTION COSTS (per cow) 1927

Items of cost and income per cow on 57 farms in DuPage, Cook, Lake, Kane, McHenry and Will Counties. (Farms ranked in order of net profit per cow)

Farm number	18*	23	12*	24*	26	3	45*	2	8
COSTS, per cow									
Feed and bedding	$ 97.79	83.56	90.38	93.64	89.57	87.50	78.12	72.39	81.61
Man labor	33.09	40.55	41.67	41.20	29.59	42.14	28.92	21.17	36.91
Int. on invest. in cows	4.49	6.06	6.35	5.39	6.43	3.33	6.28	8.57	5.91
Depreciation	14.42	3.98	----	8.46	9.11	6.11	14.57	33.51	----
Shelter	3.31	6.16	10.01	2.24	5.92	3.74	5.30	3.52	2.34
Equipment	2.36	.63	4.63	1.99	.07	.68	2.87	.89	.54
Veterinary & medicine	.22	.68	.82	.31	1.35	.44	.23	----	.32
Association dues	4.23	3.20	4.56	3.00	3.88	3.67	1.81	5.16	7.10
General farm expense	10.17	9.64	10.32	10.37	9.33	10.04	8.18	7.41	9.54
Miscellaneous	.26	.58	.16	.07	----	----	----	.06	.16
TOTAL COST	$170.34	155.04	168.90	166.67	155.25	157.65	146.28	152.68	144.43
INCOME									
Dairy sales	$184.33	168.10	175.81	174.50	160.45	175.14	151.38	153.79	139.18
Milk used on farm	4.87	7.52	14.43	14.22	12.43	4.48	15.32	10.40	19.70
Appreciation	----	-----	.27	----	----	----	----	----	2.90
Manure	12.44	10.67	9.55	8.15	10.70	5.39	6.32	15.08	9.14
TOTAL INCOME	$201.64	186.29	200.06	196.87	183.58	185.01	173.02	179.27	170.92
NET PROFIT	$ 31.30	31.25	31.16	30.20	28.33	27.36	26.74	26.59	26.49
MILK (in lbs.)	7,507	6,753	6,719	7,897	6,988	7,102	7,074	6,666	6,023
BUTTERFAT (in lbs.)	253	238	240	267	238	252	255	233	211
FEEDS (in lbs.)		**							
Corn	---	138	491	618	555	207	---	1,165	---
Oats	397	826	575	656	555	1,083	---	1,185	563
Barley	526	616	417	563	555	640	977	280	563
Total grain	923	1,580	1,483	1,837	1,665	1,930	977	2,630	1,126
Mill feed	1,880	565	762	1,036	1,447	542	822	261	777
Hay	1,006	498	3,172	1,692	1,229	2,441	877	860	2,064
Silage	9,554	7,246	5,545	8,271	7,452	3,447	9,746	2,458	6,050
Other roughage	410	----	----	212	250	----	----	3,695	597
Pasture days	154	123	91	153	102	168	153	153	153
Man hours	132	162	167	165	118	169	116	85	148
COWS per farm	15.6	10.3	18.2	26.0	17.0	18.0	41.8	12.8	9.3
Breed	PB & GH	PB & GH	PBH	PB & GH	PB & GH	GH	PB & GH	PB & GH	PB & GH

*Milking machines were used on these farms. **On farm number 23 there were 2,022 pounds of wet malt fed per cow.

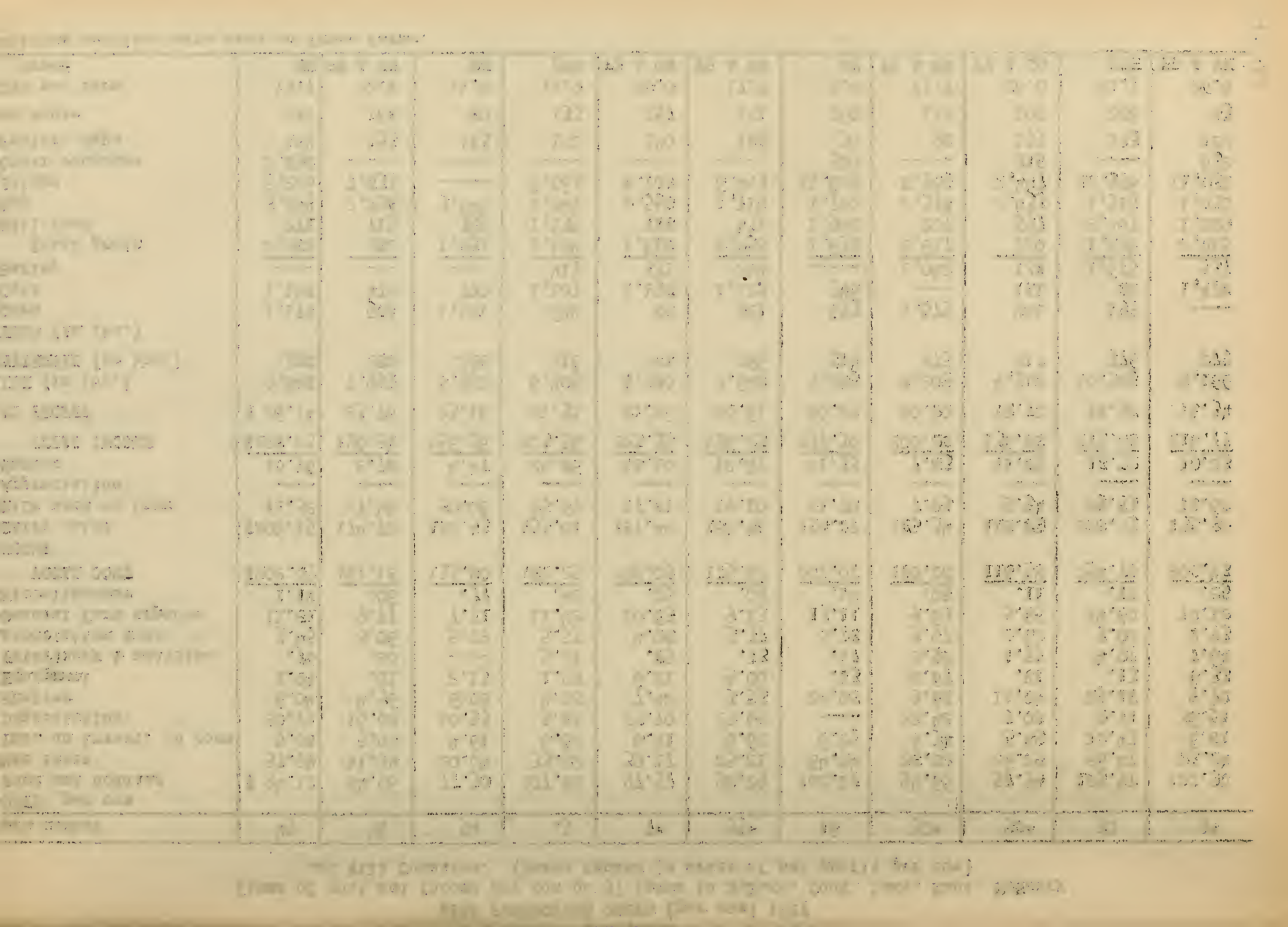
Continued

MILK PRODUCTION COSTS (per cow) 1927

Items of cost and income per cow on 57 farms in DuPage, Cook, Lake, Kane, McHenry and Will Counties. (Farms ranked in order of net profit per cow)

Farm number	49	46	54	15	7*	55*	16	32*	50*	30	9*
COSTS, per cow											
Feed and bedding	$ 94.12	84.96	77.30	107.88	97.57	92.29	102.27	94.66	57.94	129.47	100.90
Man labor	57.94	41.94	20.04	33.22	39.17	25.21	64.94	28.00	26.29	56.47	23.24
Int. on invest. in cows	5.08	5.94	4.61	6.62	6.41	6.62	6.25	6.34	5.49	10.43	6.81
Depreciation	20.71	16.08	10.53	5.88	29.70	29.65	----	22.42	5.08	9.71	36.51
Shelter	6.04	4.36	6.02	4.08	7.42	3.53	22.08	9.68	11.04	25.18	5.70
Equipment	1.04	.81	2.13	1.99	6.21	5.00	.83	2.67	.81	.13	6.33
Veterinary & medicine	.76	.20	----	5.21	.85	.73	.67	2.92	1.55	4.97	7.64
Association dues	3.45	3.06	5.09	5.53	4.08	3.37	6.78	3.57	2.62	3.02	2.93
General farm expense	11.81	9.77	7.71	11.42	10.63	9.13	13.11	9.69	5.65	14.60	10.12
Miscellaneous	1.14	.06	.37	.42	.05	.09	.14	.05	.11	.72	.25
TOTAL COST	$202.09	167.18	133.80	182.25	202.09	175.62	207.07	180.00	116.58	254.70	200.43
INCOME											
Dairy sales	$206.15	174.70	122.43	153.01	187.44	164.46	194.27	185.34	118.89	228.93	195.92
Milk used on farm	11.32	7.46	30.06	25.69	17.81	19.10	21.70	7.03	5.54	25.83	10.62
Appreciation	----	----	----	----	----	----	----	----	----	----	----
Manure	10.76	8.78	4.47	24.86	18.10	12.67	21.33	7.83	11.85	18.92	10.23
TOTAL INCOME	$228.23	190.94	156.96	203.56	223.35	196.23	237.30	200.20	136.28	273.68	216.77
NET PROFIT	$ 26.14	23.76	23.16	21.31	21.26	20.61	20.23	20.20	19.70	18.98	16.34
MILK (in lbs.)	9,648	7,959	6,552	6,405	6,980	7,648	9,045	8,209	4,512	10,925	8,166
BUTTERFAT (in lbs.)	330	280	226	216	243	266	314	275	217	376	279
FEEDS (in lbs.)											
Corn	1,174	508	1,141	644	89	921	693	1,575	401	199	----
Oats	1,108	474	790	1,107	1,198	1,123	946	----	181	20	1,478
Barley	-----	---	-----	413	331	214	-----	1,042	138	1,675	537
Total grain	2,282	982	1,931	2,164	1,618	2,258	1,639	2,617	720	1,894	2,015
Mill feed	271	715	395	1,135	718	491	1,502	207	597	2,467	1,029
Hay	3,244	2,258	3,444	2,444	2,550	1,714	1,710	2,378	2,433	1,519	1,030
Silage	5,226	7,833	-----	6,563	8,103	6,453	11,625	8,565	2,447	12,556	11,032
Other roughage	2,892	-----	-----	-----	-----	-----	360	-----	915	-----	632
Pasture days	184	153	183	122	140	188	30	92	153	123	122
Man hours	232	168	80	133	157	101	260	112	105	226	93
COWS per farm	19.7	22.2	11.4	11.9	20.0	17.2	9.0	27.7	26.0	41.7	26.6
Breed	GH	PB & GH	GH	PBH	PB & GH	PB & GH	GH	PB & GH	PB & GG	PBH	PB & GH

*Milking machines were used on these farms.



Continued

MILK PRODUCTION COSTS (per cow) 1927

Items of cost and income per cow on 57 farms in DuPage, Cook, Lake, Kane, McHenry and Will Counties. (Farms ranked in order of net profit per cow)

Farm number	42	40*	47*	35*	36*	41*	31*	17*	1927 Average	1926 Average
COSTS, per cow										
Feed and bedding	$ 85.29	100.23	86.40	99.65	83.09	108.23	82.66	98.41	95.61	83.66
Man labor	45.23	30.40	25.05	39.05	36.47	36.33	45.36	46.71	36.61	35.63
Int. on invest.in cows	7.35	7.50	4.64	5.49	4.97	7.11	7.39	6.61	6.50	6.10
Depreciation	3.72	34.31	12.55	29.54	7.26	13.30	10.43	18.37	12.91	17.49
Shelter	7.87	6.22	4.98	3.29	5.30	8.50	6.72	3.75	6.82	5.54
Equipment	.27	4.72	2.96	4.90	1.71	3.70	2.84	7.67	2.85	1.83
Veterinary and medicine	.20	3.79	2.15	1.13	1.50	4.16	.84	1.12	1.63	1.74
Association dues	2.88	2.40	2.42	2.37	2.08	2.55	1.57	8.94	3.50	3.10
General farm expense	10.04	10.26	8.70	10.68	9.26	11.36	9.80	11.64	10.35	9.33
Miscellaneous	.32	----	-----	.23	.33	.14	.16	----	.25	.30
TOTAL COST	$163.17	199.83	149.85	196.33	151.97	195.38	167.77	203.22	177.03	164.72
INCOME										
Dairy sales	$138.68	184.67	143.61	174.72	145.77	158.31	155.42	153.59	185.08	191.35
Milk used on farm	26.32	17.79	10.18	13.63	3.67	22.14	6.10	16.59	15.59	13.37
Appreciation	-----	-----	-----	-----	-----	-----	-----	-----	.57	2.10
Manure	12.40	9.14	7.02	17.12	8.61	14.53	4.70	8.65	12.27	13.58
TOTAL INCOME	$177.40	211.60	160.81	205.47	158.05	194.98	166.22	178.83	213.51	220.40
NET PROFIT	$ 14.23	11.77	10.96	9.14	6.08	-.40	-1.55	-24.39	36.48	55.68
MILK (in lbs.)	7,443	8,916	6,582	8,201	6,991	7,451	6,880	7,027	8,155	7,889
BUTTERFAT (in lbs.)	250	301	243	277	245	266	226	249	288	---
FEEDS (in lbs.)										***
Corn	----	87		798	696	202	239	----	543	601
Oats	373	----		119	469	232	182	1,241	639	822
Barley	445	679		593	648	789	92	465	588	390
Total grain	818	766	(2,667	1,510	1,813	1,223	513	1,706	1,770	1,813
Mill feed	948	1,567	(	1,012	463	1,541	1,568	476	722	774
Hay	2,126	2,042	2,741	3,655	831	1,721	1,025	2,437	1,905	1,917
Silage	9,762	11,022	7,661	7,961	8,286	11,992	5,678	8,263	8,656	6,393
Other roughage	----	-----	-----	-----	-----	-----	4,278**	----	401	951
Pasture days	153	153	153	137	184	99	92	153	138	143
Man hours	181	122	100	156	146	149	181	187	147	143
COWS per farm	25.0	29.0	30.2	30.2	31.7	26.7	37.2	10.4	19.5	20.0
Breed	PBH	PBH	PB & GH	PB & GH	PB & GH	PB & GH	PBH	PB & GH		

*Milking machines were used on these farms. **Sugar jack. ***478 lbs. of wet malt were fed in addition to the following feeds.

COSTS OF PRODUCING 100 POUNDS OF MILK

The cost of producing 100 pounds of milk varied from $1.54 on farm number 37 to $3.28 on farm number 11, while the average of the 57 farms was $2.17. (See Table 4). The first farm had a high production per cow and since all items of cost were reasonable, the cost per 100 pounds of milk produced was low. This farm had a low feed cost, a low man labor charge, and the herd increased in value, while most herds showed a depreciation. These three items of cost made up 82 percent of the total cost on all farms and when these items of cost are kept down a low total cost is practically assured.

A study of Table 4 shows that frequently low costs per cow are secured but the cost of producing 100 pounds of milk is high because of the relatively low production per cow. Since the main interest is in low cost of producing milk, the data in Table 4 are arranged according to the cost of producing 100 pounds of milk, with the data from farms of low cost given first place.

A study of the various items of cost on the different farms shows wide variations. For example, the feed cost of each 100 pounds of milk produced ranged from 90 cents to $1.68, the man labor charge varied from 22 cents to 72 cents, and there was a variation of 55 cents in depreciation. There are variations in the other costs, but they are not as large and they are not as nearly under the control of the dairyman as the three just mentioned.

Many different rations were fed on the various farms. Some dairymen fed a large amount of one feed while other dairymen fed very little of that particular feed and a large quantity of some other feed. There is a great difference in the amount of feed required for each 100 pounds of milk produced on the various farms, due either to better feeding practices or more efficient cows as shown in Table 4.

The average feed cost of each 100 pounds of milk produced was higher in 1927 than in 1926 even though the milk production per cow was increased from 7,889 pounds to 8,155 pounds. There was less of each kind of feed fed except silage, so it can be said that the higher feed cost was due to higher feed prices and not inefficient feeding. In 1927 the depreciation on cows was six cents lower for each 100 pounds of milk produced. This was no doubt due largely to initial testing for tuberculosis in 1926 and only retesting in 1927; consequently the loss in value due to tubercular cattle was much heavier in 1926. Most of the other costs remained about the same both years. The price received for milk was about 13 cents per hundred less than in 1926 and this coupled with the higher cost reduced the average net profit to 45 cents per 100 pounds of milk.

It should be kept in mind that these dairymen probably have a lower cost and a higher profit than the average because they are twice selected. That is, these results were obtained from farmers that belonged to Dairy Herd Improvement Associations and only those who were interested in keeping a financial record for the entire farm were selected from the association members.

MILK PRODUCTION COSTS (per 100 pounds) 1927

Table 4.-Items of cost and income per 100 pounds of milk produced on 57 farms in DuPage, Cook, Lake, Kane, McHenry and Will Counties. (Farms ranked in order of total cost per 100 pounds of milk)

Farm number	37*	19*	53*	56	33	34	5*	20	38	28*
COSTS per 100 lbs.										
Feed and bedding	$ .94	1.07	1.00	.90	1.06	1.00	1.03	1.11	1.05	1.04
Man labor	.28	.23	.39	.37	.40	.47	.22	.33	.53	.45
Int.on invest.in cows	.08	.05	.05	.08	.07	.07	.07	.06	.09	.06
Depreciation	--	.09	.06	.25	.04	--	.19	.16	.01	.16
Shelter	.07	.05	.05	.03	.06	.10	.11	.08	.08	.05
Equipment	.04	.05	.06	.03	.02	.03	.03	.01	--	.03
Veterinary & medicine	--	.02	.03	.01	.03	.01	.03	.02	--	.03
Association dues	.04	.04	.04	.05	.03	.04	.05	.03	.06	.02
General farm expense	.09	.10	.11	.10	.11	.11	.15	.12	.12	.12
Miscellaneous	--	--	.01	--	--	.01	.01	--	--	--
TOTAL COST	$1.54	1.70	1.80	1.82	1.82	1.84	1.89	1.92	1.94	1.96
INCOME										
Dairy sales	$2.20	2.20	2.22	2.35	2.25	2.03	2.24	2.37	2.32	2.38
Milk used on farm	.35	.18	.21	.11	.09	.20	.04	.12	.18	.15
Appreciation	.06	--	--	--	--	--	--	--	--	--
Manure	.13	.08	.07	.08	.23	.14	.12	.07	.21	.10
TOTAL INCOME	$2.74	2.46	2.50	2.54	2.57	2.37	2.40	2.56	2.71	2.63
NET PROFIT	$1.20	.76	.70	.72	.75	.53	.51	.64	.77	.67
MILK per cow (lbs.)	10,557	9,302	9,714	10,825	9,843	11,706	10,580	8,354	8,468	9,448
BUTTERFAT per cow(lbs.)	375	307	332	387	329	421	377	303	324	367
FEEDS (in lbs.)								**		
Corn	2.2	7.9	18.0	6.1	6.9	13.2	3.3	--	9.5	7.8
Oats	6.7	6.5	18.0	8.5	4.7	19.9	13.2	1.0	---	5.5
Barley	7.3	7.6	---	11.9	7.3	7.7	4.5	--	14.8	5.6
Total grain	16.2	22.0	36.0	26.5	18.9	40.8	21.0	1.0	24.3	18.9
Mill feed	4.9	7.5	6.0	5.8	11.2	---	8.3	19.4	7.2	6.3
Hay	23.0	15.7	11.6	14.1	24.4	29.4	27.1	7.3	26.5	15.2
Silage	98.3	75.1	59.3	57.5	72.2	40.6	95.2	68.3	109.8	91.0
Other roughage	---	20.6	----	---	---	11.6	---	27.7	---	5.7
Pasture days	1.0	.9	2.0	1.7	1.5	1.0	1.8	1.1	1.8	1.3
Man hours	1.1	.9	1.5	1.4	1.6	1.8	.9	1.3	2.1	1.8
COWS per farm	22.2	18.1	17.7	11.7	22.2	13.9	11.7	11.8	13.7	12.7
Breed	PB & GH	PB & GH	PB & GH	PB & GH	PB & GH	PBH	PB & GH	PB & GH	PB & GH	GH

*Milking machines were used on these farms.

**There were 95.4 pounds of wet malt fed per 100 pounds of milk on this farm.

MILK PRODUCTION COSTS (per 100 pounds) 1927

Items of cost and income per 100 pounds of milk produced on 57 farms in DuPage, Cook, Lake, Kane, McHenry and Will Counties. (Farms ranked in order of total cost per 100 pounds of milk)

Farm number	39*	14	27	29	25	52*	51	57*	13*	54
COSTS per 100 lbs.										
Feed and bedding	$ 1.26	1.29	1.10	1.09	1.10	1.00	1.15	1.09	1.17	1.18
Man labor	.37	.33	.50	.40	.40	.31	.34	.40	.43	.31
Int. on invest. in cows	.06	.07	.07	.08	.07	.10	.06	.11	.08	.07
Depreciation	--	--	.03	.16	.19	.20	.18	.10	--	.16
Shelter	.04	.02	.08	.07	.05	.12	.03	.08	.07	.09
Equipment	.06	.01	--	.01	.01	.06	.01	.03	.07	.03
Veterinary & medicine	--	.03	.01	--	.01	.04	.04	--	.02	--
Association dues	.04	.08	.05	.04	.04	.06	.06	.08	.04	.08
General farm expense	.13	.13	.12	.12	.12	.10	.12	.12	.13	.12
Miscellaneous	--	--	--	.01	--	--	--	--	.01	--
TOTAL COST	$ 1.96	1.96	1.96	1.98	1.99	1.99	1.99	2.01	2.02	2.04
INCOME										
Dairy sales	1.95	2.49	2.62	2.42	2.38	2.14	2.28	2.33	2.37	1.87
Milk used on farm	.34	.24	.14	.14	.10	.22	.22	.09	.06	.46
Appreciation	.05	.10	--	--	--	--	--	--	--	--
Manure	.13	.24	.15	.23	.11	.09	.19	.23	.19	.07
TOTAL INCOME	$ 2.47	3.07	2.91	2.79	2.59	2.45	2.69	2.65	2.62	2.40
NET PROFIT	$ .51	1.11	.95	.81	.60	.46	.70	.64	.60	.36
MILK per cow (lbs.)	8,505	6,913	6,498	9,367	8,537	8,472	7,522	8,431	7,650	6,552
BUTTERFAT per cow (lbs.)	285	249	259	334	299	288	288	297	280	226
FEEDS (in lbs.)										
Corn	7.7	--	3.7	11.7	6.1	22.0	9.4	13.9	7.7	17.4
Oats	6.7	10.9	9.3	8.1	5.2	20.2	10.6	9.1	9.4	12.0
Barley	7.9	10.5	8.8	---	11.3	7.7	5.9	---	3.4	---
Total grain	22.3	21.4	21.8	19.8	22.5	49.8	25.8	23.0	20.5	29.4
Mill feed	22.2	8.7	3.7	12.1	13.9	4.5	7.1	21.6	13.5	6.0
Hay	36.0	24.4	38.3	18.3	16.4	16.7	20.2	---	19.3	52.5
Silage	96.3	128.5	104.9	98.4	91.7	47.6	102.2	54.0	67.7	---
Other roughage	---	22.6	---	5.5	8.4	---	---	17.6	---	---
Pasture days	1.9	1.7	1.6	.9	1.3	2.4	2.0	1.7	2.3	2.8
Man hours	1.4	1.3	2.0	1.6	1.6	1.2	1.3	1.6	1.7	1.2
COWS per farm	20.9	15.0	23.6	14.7	20.0	14.3	12.2	9.7	28.2	11.4
Breed	PBH	PB & GH	PB & GH	PB & GH	PB & GH	PB & GH	Mixed	PB & GH	PB & GH	GH

*Milking machines were used on these farms.

Continued

MILK PRODUCTION COSTS (per 100 pounds) 1927

Items of cost and income per 100 pounds of milk produced on 57 farms in DuPage, Cook, Lake, Kane, McHenry and Will Counties. (Farms ranked in order of total cost per 100 pounds of milk)

Farm number	10*	48*	44	21*	45*	49	46	24*	22*	36*
COSTS per 100 lbs.										
Feed and bedding	$1.20	1.05	1.26	1.22	1.10	.98	1.07	1.19	1.08	1.19
Man labor	.27	.58	.47	.48	.41	.60	.53	.52	.33	.52
Int. on invest. in cows	.08	.06	.07	.09	.09	.05	.08	.07	.08	.07
Depreciation	.18	.11	.05	--	.21	.22	.20	.10	.44	.10
Shelter	.08	.03	.03	.04	.07	.06	.05	.03	.04	.08
Equipment	.06	.05	.02	.03	.04	.01	.01	.03	.02	.02
Veterinary and medicine	.02	.01	.01	.02	--	.01	--	--	.02	.02
Association dues	.04	.04	.02	.06	.03	.04	.04	.04	.05	.03
General farm expense	.12	.13	.13	.13	.12	.12	.12	.13	.11	.13
Miscellaneous	--	--	.01	--	--	.01	--	--	--	.01
TOTAL COST	$2.05	2.06	2.07	2.07	2.07	2.10	2.10	2.11	2.17	2.17
INCOME										
Dairy sales	$2.25	2.27	2.22	2.02	2.14	2.14	2.20	2.21	2.75	2.08
Milk used on farm	.18	.07	.16	.47	.22	.12	.09	.18	.08	.06
Appreciation	--	--	--	--	--	--	--	--	--	--
Manure	.13	.24	.15	.17	.09	.11	.11	.10	.12	.12
TOTAL INCOME	$2.56	2.58	2.53	2.66	2.45	2.37	2.40	2.49	2.95	2.26
NET PROFIT	$ .51	.52	.46	.59	.38	.27	.30	.38	.78	.09
MILK per cow (lbs.)	9,412	7,629	12,093	7,631	7,074	9,648	7,959	7,897	9,315	6,991
BUTTERFAT per cow (lbs.)	326	250	432	270	255	330	280	267	317	245
FEEDS (in lbs.)				**						
Corn	3.8	13.0		5.4	---	12.2	6.3	7.8	10.3	10.0
Oats	10.7	10.5		7.2	---	11.4	6.0	8.3	9.7	6.7
Barley	11.9	7.7		4.8	13.8	---	---	7.1	9.7	9.2
Total grain	26.4	31.2	(36.2	17.4	13.8	23.6	12.3	23.2	29.7	25.9
Mill feed	4.8	1.9	(	9.4	11.6	2.8	9.0	13.1	13.7	6.6
Hay	19.6	36.0	25.8	18.1	12.3	33.6	28.3	21.4	18.5	11.9
Silage	111.6	91.6	78.0	106.6	137.7	54.1	98.3	104.6	88.3	118.5
Other roughage	---	---	---	19.2	---	30.0	---	2.6	---	---
Pasture days	1.4	2.1	1.1	1.7	2.2	1.8	2.0	1.8	1.2	2.6
Man hours	1.1	2.3	1.8	1.9	1.6	2.4	2.1	2.1	1.3	2.0
COWS per farm	22.9	21.0	25.8	13.9	41.8	19.7	22.2	26.0	13.4	31.7
Breed	PB & GH	PB & GH	PB & GH	GH	PB & GH	GH	PB & GH	PB & GH	PB & GH	PB & GH

*Milking machines were used on these farms.

**On farm number 21 there were 33.2 pounds of wet malt fed per hundred pounds of milk produced.

Continued

MILK PRODUCTION COSTS (per 100 pounds) 1927

Items of cost and income per 100 pounds of milk produced on 57 farms in DuPage, Cook, Lake, Kane, McHenry, and Will Counties. (Farms ranked in order of total cost per 100 pounds of milk)

Farm number	32*	42	3	26	6	40*	43*	18*	47*	2
COSTS per 100 lbs.										
Feed and bedding	$ 1.15	1.15	1.23	1.28	1.14	1.13	1.21	1.30	1.31	1.09
Man labor	.34	.61	.59	.42	.31	.34	.62	.44	.38	.32
Int. on invest.in cows	.08	.10	.05	.09	.09	.08	.08	.06	.07	.13
Depreciation	.27	.05	.09	.14	.42	.38	--	.19	.19	.50
Shelter	.12	.11	.05	.08	.07	.07	.10	.04	.08	.05
Equipment	.03	--	.01	--	.01	.05	.06	.03	.04	.01
Veterinary and medicine	.04	--	.01	.02	.03	.04	--	--	.03	--
Association dues	.04	.04	.05	.06	.05	.03	.03	.05	.04	.08
General farm expense	.12	.13	.14	.13	.12	.12	.14	.14	.13	.11
Miscellaneous	--	--	--	--	--	--	--	.01	--	--
TOTAL COST	$ 2.19	2.19	2.22	2.22	2.24	2.24	2.24	2.26	2.27	2.29
INCOME										
Dairy sales	2.26	1.86	2.46	2.29	2.56	2.07	1.83	2.45	2.18	2.30
Milk used on farm	.09	.35	.07	.18	.08	.20	.46	.07	.15	.16
Appreciation	--	--	--	--	--	--	.10	--	--	--
Manure	.09	.17	.07	.16	.15	.10	.25	.16	.11	.23
TOTAL INCOME	$ 2.44	2.38	2.60	2.63	2.79	2.37	2.64	2.68	2.44	2.69
NET PROFIT	$ .25	.19	.38	.41	.55	.13	.40	.42	.17	.40
MILK per cow (lbs.)	8,209	7,443	7,102	6,988	9,585	8,916	8,894	7,507	6,582	6,666
BUTTERFAT per cow (lbs.)	275	250	252	238	333	301	288	253	243	233
FEEDS (in lbs.)										
Corn	19.1	--	2.9	7.9	10.8	.9	2.5	--		17.4
Oats	---	5.0	15.3	7.9	6.5	--	6.7	5.3		17.8
Barley	12.7	6.0	9.0	8.0	.2	7.6	9.5	7.0		4.2
Total grain	31.8	11.0	27.2	23.8	17.5	8.5	18.7	12.3	(40.5	39.4
Mill feed	2.5	12.7	7.6	20.7	12.2	17.5	6.8	25.0	(	3.9
Hay	28.9	28.5	34.3	17.5	32.6	22.9	39.1	13.3	41.6	12.9
Silage	104.3	131.1	48.5	106.5	89.5	123.6	91.0	127.1	116.3	36.8
Other roughage	---	---	---	3.6	6.8	----	23.4	5.5	---	55.4
Pasture days	1.0	2.0	2.4	1.5	1.2	1.7	1.8	2.1	2.3	2.2
Man hours	1.4	2.4	2.4	1.7	1.3	1.3	2.5	1.7	1.5	1.3
COWS per farm	27.7	25.0	18.0	17.0	14.2	29.0	24.0	15.6	30.2	12.8
Breed	PB & GH	PBH	GH	PB & GH	PBH	PBH	PBH	PB & GH	PB & GH	PB & GH

*Milking machines were used on these farms.

Continued

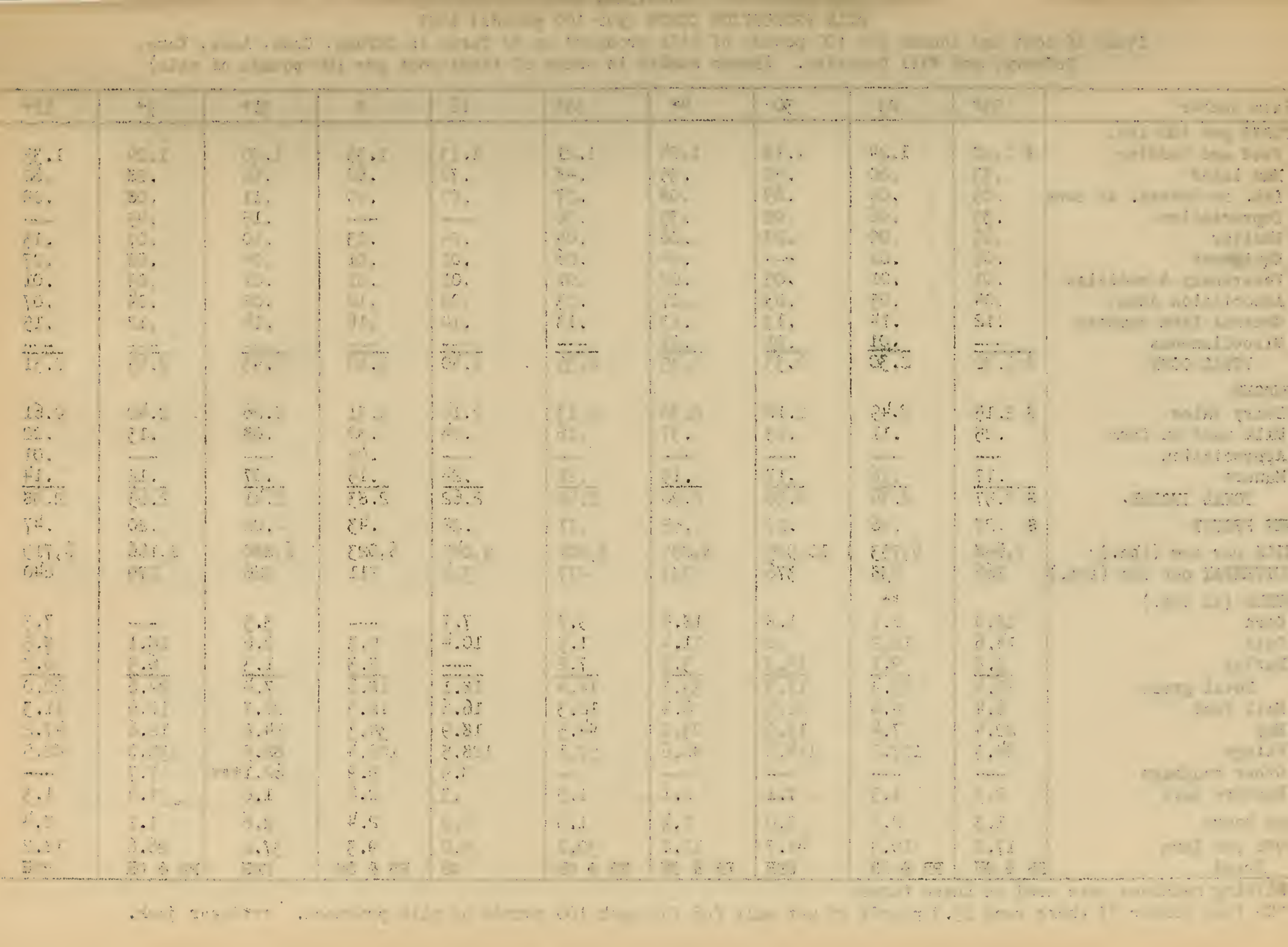
MILK PRODUCTION COSTS (per 100 pounds) 1927

Items of cost and income per 100 pounds of milk produced on 57 farms in DuPage, Cook, Lake, Kane, McHenry, and Will Counties. (Farms ranked in order of total cost per 100 pounds of milk)

Farm number	55*	23	30	4*	35*	16	8	31*	9*	12*
COSTS per 100 lbs.										
Feed and bedding	$ 1.20	1.24	1.18	1.24	1.21	1.13	1.35	1.20	1.24	1.35
Man labor	.33	.60	.52	.35	.48	.72	.62	.66	.28	.62
Int. on invest. in cows	.09	.09	.09	.08	.07	.07	.10	.11	.08	.09
Depreciation	.39	.06	.09	.35	.36	---	---	.15	.45	---
Shelter	.05	.09	.23	.06	.04	.24	.03	.10	.07	.15
Equipment	.07	.01	---	.04	.06	.01	.01	.04	.08	.07
Veterinary & medicine	.01	.01	.05	.02	.01	.01	.01	.01	.09	.01
Association dues	.04	.05	.03	.07	.03	.08	.12	.02	.04	.07
General farm expense	.12	.14	.13	.13	.13	.14	.16	.14	.12	.15
Miscellaneous	---	.01	.01	.01	---	---	---	---	---	---
TOTAL COST	$ 2.30	2.30	2.33	2.35	2.39	2.40	2.40	2.43	2.45	2.51
INCOME										
Dairy sales	$ 2.15	2.49	2.10	2.38	2.13	2.14	2.31	2.26	2.40	2.61
Milk used on farm	.25	.11	.23	.37	.16	.24	.32	.08	.13	.22
Appreciation	---	---	---	---	---	---	.05	---	---	.01
Manure	.17	.16	.17	.15	.21	.24	.15	.07	.12	.14
TOTAL INCOME	$ 2.57	2.76	2.50	2.90	2.50	2.62	2.83	2.41	2.65	2.98
NET PROFIT	$ .27	.46	.17	.55	.11	.22	.43	-.02	.20	.47
MILK per cow (lbs.)	7,648	6,753	10,925	8,299	8,201	9,045	6,023	6,880	8,166	6,719
BUTTERFAT per cow (lbs.)	266	238	376	333	277	314	211	226	279	240
FEEDS (in lbs.)		**								
Corn	12.0	2.1	1.8	18.4	9.7	7.7	---	3.5	---	7.3
Oats	14.6	12.2	.2	11.4	1.5	10.4	9.3	2.6	18.1	8.5
Barley	2.8	9.1	15.3	3.9	7.2	---	9.3	1.3	6.5	6.2
Total grain	29.4	23.4	17.3	33.7	18.4	18.1	18.6	7.4	24.6	22.0
Mill feed	6.4	8.4	22.5	6.4	12.3	16.6	12.9	22.7	12.6	11.3
Hay	22.4	7.4	13.9	23.0	44.5	18.9	34.3	14.8	12.6	47.2
Silage	84.3	107.2	114.9	86.6	97.1	128.5	100.4	82.5	135.0	82.5
Other roughage	---	---	---	---	---	3.9	9.9	62.1***	7.7	---
Pasture days	2.3	1.9	1.1	2.1	1.5	.3	2.6	1.6	1.4	1.3
Man hours	1.3	2.4	2.0	1.4	1.9	2.9	2.4	2.6	1.1	2.4
COWS per farm	17.2	10.3	41.7	12.2	30.2	9.0	9.3	37.2	26.6	18.2
Breed	PB & GH	PB & GH	PBH	PB & GH	PB & GH	GH	PB & GH	PBH	PB & GH	PBH

*Milking machines were used on these farms.

**On farm number 23 there were 29.9 pounds of wet malt fed for each 100 pounds of milk produced. ***Sugar jack.



Continued

MILK PRODUCTION COSTS (per 100 pounds) 1927

Items of cost and income per 100 pounds of milk produced on 57 farms in DuPage, Cook, Lake, Kane, McHenry, and Will Counties. (Farms ranked in order of total cost per 100 pounds of milk)

Farm number	50*	41*	1	15	17*	7*	11*	1927 Average	1926 Average
COSTS per 100 lbs.									
Feed and bedding	$ 1.29	1.45	1.44	1.68	1.40	1.40	1.61	1.17	1.06
Man labor	.58	.49	.64	.52	.66	.56	.65	.45	.45
Int. on invest. in cows	.12	.10	.10	.10	.09	.09	.14	.08	.08
Depreciation	.11	.18	---	.09	.26	.43	.26	.16	.22
Shelter	.24	.11	.17	.06	.05	.11	.25	.08	.07
Equipment	.02	.05	.02	.03	.11	.09	.11	.04	.02
Veterinary & medicine	.03	.06	.04	.08	.02	.01	.02	.02	.02
Association dues	.06	.03	.06	.09	.13	.06	.06	.04	.04
General farm expense	.13	.15	.16	.18	.17	.15	.18	.13	.12
Miscellaneous	---	---	.01	.01	---	---	---	---	---
TOTAL COST	$ 2.58	2.62	2.64	2.84	2.89	2.90	3.28	2.17	2.08
INCOME									
Dairy sales	$ 2.64	2.12	3.13	2.38	2.19	2.69	3.94	2.27	2.42
Milk used on farm	.12	.30	.32	.40	.23	.25	.52	.19	.17
Appreciation	---	---	.09	---	---	---	---	.01	.03
Manure	.26	.20	.29	.39	.12	.26	.18	.15	.17
TOTAL INCOME	$ 3.02	2.62	3.83	3.17	2.54	3.20	4.64	2.62	2.79
NET PROFIT	$ .44	.00	1.19	.33	-.35	.30	1.36	.45	.71
MILK per cow (lbs.)	4,512	7,451	6,790	6,405	7,027	6,980	6,001	8,155	7,889
BUTTERFAT per cow (lbs.)	217	266	286	216	249	243	275	288	
FEEDS (in lbs.)									**
Corn	8.9	2.7	---	10.1	---	1.3	---	6.8	7.7
Oats	4.0	3.1	18.5	17.3	17.7	17.2	16.2	8.0	10.5
Barley	3.0	10.6	7.9	6.4	6.6	4.7	13.3	7.3	4.9
Total grain	15.9	16.4	26.4	33.8	24.3	23.2	29.5	22.1	23.1
Mill feed	13.2	20.6	12.5	17.7	6.8	10.2	5.7	9.1	9.8
Hay	53.9	23.1	40.6	38.1	34.6	36.6	40.1	24.6	24.4
Silage	54.2	160.9	111.2	102.4	117.5	116.0	123.3	96.3	81.5
Other roughage	20.3	---	---	---	---	---	---	6.1	12.1
Pasture days	3.3	1.2	1.2	1.9	2.1	1.7	1.4	1.7	1.8
Man hours	2.3	2.0	2.5	2.0	2.6	2.2	2.6	1.8	1.8
COWS per farm	26.0	26.7	8.5	11.9	10.4	20.0	18.4	19.5	20.0
Breed	PB & GG	PB & GH	GH & GG	PBH	PB & GH	PB & GH	PB & GG		

*Milking machines were used on these farms. **6.1 pounds of wet malt were fed in addition to the following feeds.

Find Your Weak Points

The numbers between the lines across the middle of the page are the approximate averages for all farms in the factors named at the top of the page. By drawing a line across each column at the number measuring the efficiency of your dairy in that factor, you can compare your efficiency with that of the other dairymen.

Total cost per 100 lbs.	Feed cost per 100 lbs.	Feed cost per cow	Depreciation per cow	Total cost per cow	Total income per cow	Net profit per cow	Milk production per cow	Butterfat production per cow	Hours labor per cow	Hours labor per 100 lbs.	Number of cows
$1.57	$ .87	$ 65	---	$ 117	$ 303	$ 96	12,650	378	87	1.2	32
1.67	.92	70	---	127	288	86	11,900	363	97	1.3	30
1.77	.97	75	$ 1.00	137	273	76	11,150	348	107	1.4	28
1.87	1.02	80	4.00	147	258	66	10,400	333	117	1.5	26
1.97	1.07	85	7.00	157	243	56	9,650	318	127	1.6	24
2.07	1.12	90	10.00	167	228	46	8,900	303	137	1.7	22
2.17	1.17	95	13.00	177	213	36	8,150	288	147	1.8	20
2.27	1.22	100	16.00	187	198	26	7,400	273	157	1.9	18
2.37	1.27	105	19.00	197	183	16	6,650	258	167	2.0	16
2.47	1.32	110	22.00	207	168	6	5,900	243	177	2.1	14
2.57	1.37	115	25.00	217	153	- 4	5,150	228	187	2.2	12
2.67	1.42	120	28.00	227	138	- 14	4,400	213	197	2.3	10
2.77	1.47	125	31.00	237	---	- 24	---	198	207	2.4	8

SUMMARY OF RESULTS

In Tables 5 and 5a and figure 1 following, the farms have been grouped on the basis of production per cow to study the effect of high and low production upon costs, income, profit, and various other items. These tables might be called a "summing up" of the whole study, showing the trend in the different factors as production is increased.

There is a difference of over 150 pounds of butterfat and over 4,000 pounds of milk per cow between the high and low producing groups in Table 5. The feed cost per cow is almost $30 higher and the total cost over $50 higher per cow in the high producing group than in the lower, but the income is over $95 higher; consequently there was a profit of $65 per cow in that group and only $21 in the low group. It seems that the depreciation per cow tends to be more on those of high production, even though the depreciation is much lower on the highest producing group than some of the other groups.

In Table 5a where the farms have been grouped according to milk production we see a close relationship existing between the cost per 100 pounds and the production per cow. The feed cost per 100 pounds of milk is 26 cents lower in the group of high producing cows than in the low producing group. In the total cost per 100 pounds of milk produced there is 51 cents difference in the two groups. While the feed cost per cow is $32.00 more in the high producing group and other expenses $24.00 more the highest producing cows produced 100 pounds of milk much cheaper than those of any other group.

There seems to be a marked tendency for the farms with high producing cows to earn a higher percent of interest on the entire farm investment than those with lower producing cows. This is to be expected because a man who is a good dairyman would probably be a good farmer in many other respects.

Table 5.-Results of cost of production studies on 57 dairy herds grouped according to butterfat production per cow, showing the cost, income, and profit per cow and per 100 pounds of milk

Butterfat production per cow (lbs.)	Average production for group		Average feed cost per cow	Average total cost per cow	Average total income per cow	Average net profit per cow	Average depreciation per cow	Average feed cost per 100 lbs.	Average total cost per 100 lbs.	Average rate earned on farm investment	Average number cows per farm	Number farms in group
	Milk (lbs.)	B. F. (lbs.)										
Over 350	10,876	391	$115.03	$209.59	$275.39	$65.80	$ 10.18	$1.05	$1.92	9.00%	20.0	7
325-350	9,410	331	103.41	192.11	247.92	55.81	18.80	1.10	2.05	7.26	17.7	7
300-325	8,900	311	97.29	183.70	232.54	48.84	16.28	1.10	2.06	5.46	15.8	6
275-300	7,949	284	95.12	176.70	219.34	42.57	12.11	1.21	2.25*	5.01	20.2	13
250-275	7,358	259	88.70	161.71	191.41	29.70	10.10	1.20	2.19	4.62	22.9	10
Under 250	6,571	234	85.56	158.53	179.77	21.24	9.74	1.30	2.41	3.38	18.7	14

Table 5a.-Same data as Table 5 with herds grouped according to milk production per cow

Milk production												
Over 10,000	11,114	394	$117.78	$213.63	$279.95	$66.32	$ 9.43	$1.05	$1.91	9.53%	21.2	6
9,000-10,000	9,468	329	102.17	191.27	248.39	57.12	16.63	1.08	2.02	6.88	16.5	10
8,000-9,000	8,454	296	97.10	180.86	217.80	36.94	16.25	1.15	2.14	4.79	20.0	12
7,000-8,000	7,503	264	90.42	166.49	192.11	25.62	11.37	1.21	2.22	4.22	21.4	13
Under 7,000	6,515	240	85.33	157.46	191.61	34.15	8.10	1.31	2.42	4.18	18.8	16
Average	8,155	288	95.61	177.03	213.51	36.48	12.91	1.17	2.17	5.00	19.5	

*The cost per 100 pounds of milk is high in this group because two of the herds produced especially high testing milk and had a high cost.

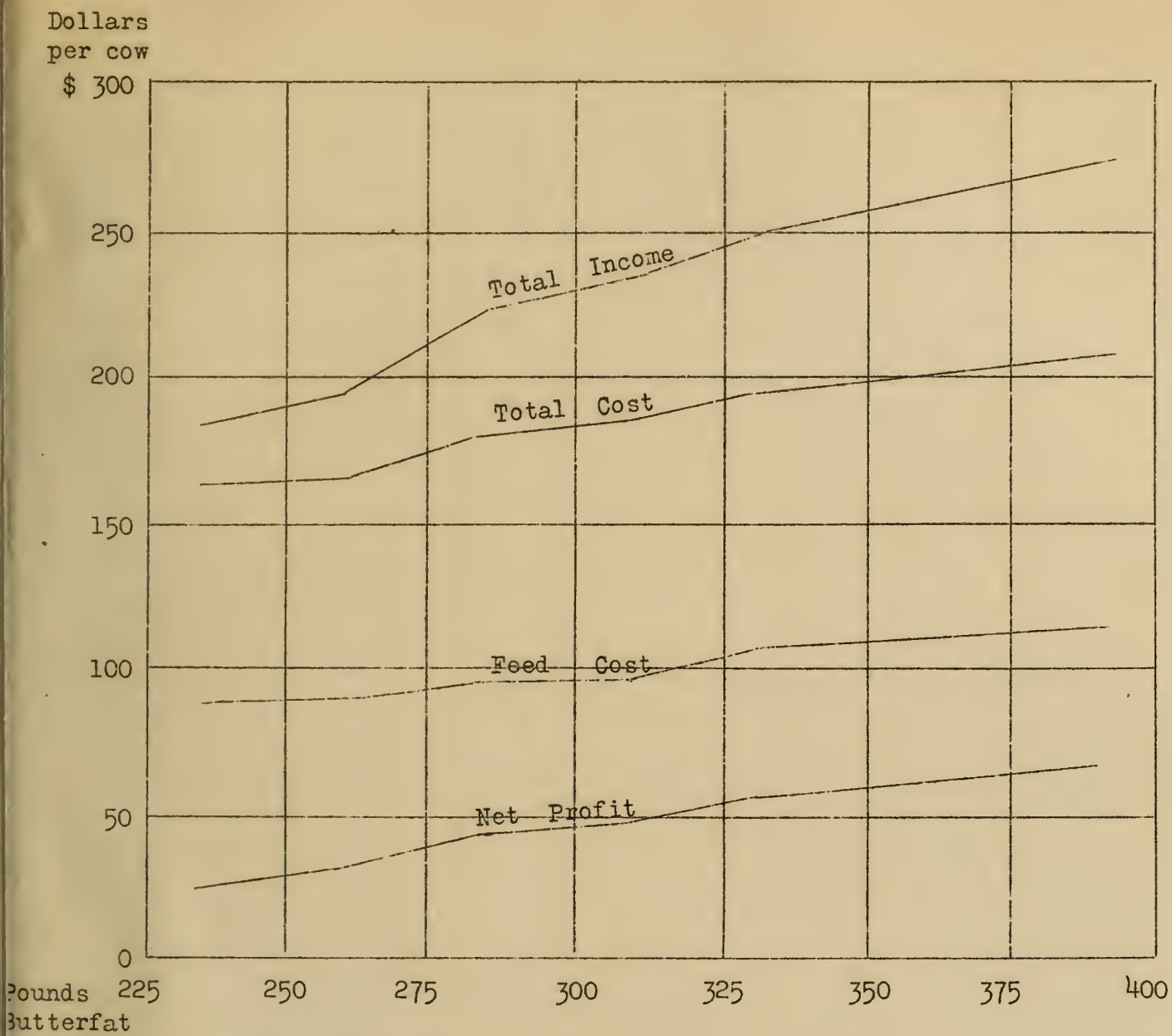


Figure 1.-Relation of Production per Cow to Cost, Income and Profit.

In Figure 1 we have plotted the cost, income, and profit of the five groups of farms grouped according to their butterfat production per cow. This may show the tendency in each of the items more clearly than the foregoing tables.